The Ingleby Lectures

ON

PELVIC INFLAMMATIONS IN THE FEMALE.

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LECTURE II.

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SYMPTOMS AND COURSE.

MR. DEAN AND GENTLEMEN,—The amount of illness and suffering produced by inflammation of the uterine appendages is out of all proportion to the mortality. The symptoms vary infinitely in severity. In a considerable number of women the physical signs of these affections are found, so to say, accidentally and no pain or disturbance of function is present that can be attributed to the disease. In another large group of cases the patients apply for the treatment of sterility, and it is found that changes, often of considerable extent, are present without any history to indicate the origin of the disease. In many cases this apparently dates from childhood, when the pelvic inflammation may have passed through its acute stage without giving rise to symptoms so severe or localised as to lead to its detection, or with symptoms that are masked by the presence of some graver affection of the lungs or peritoneum. Many of the cases of sterility, however, give a history of some disturbance of function, local pelvic pains or uneasiness, or other suspicious symptoms, dating from about the time of marriage, and in a considerable proportion of these patients signs suggestive of gonococcal infection are present. The onset of the affection may have been acute and more or less severe following upon a labour or abortion. In many cases the disease starts insidiously. A not uncommon history is one of childbed followed by a red discharge of some duration and by a history of general weakness lasting for several months; afterwards such a patient may consider herself well for months or even years and then from slight or no obvious cause be seized with acute pelvic peritonitis. In such an acute attack the underlying condition of the uterine appendages is often found to be one that has most likely existed for years and that can with great probability be ascribed to the last labour. In many other cases the patient with chronic disease of the appendages, even on the closest cross-examination, can give no indication of the time when the inflammation probably originated.

Chronic and persistent symptoms are usually present in different degrees of severity, often varied by acute exacerbations, which are specially liable to occur at the menstrual periods. Among the symptoms pains of varying character and intensity are most frequent. These may be felt in one or both sides of the lower abdomen, in the sacral region, round the hips, deep in the pelvis, or sometimes shooting down the thigh as far as the knee. Sometimes these pains are only noted at the periods, but generally they are more or less present in the intervals and are especially marked after work or exercise and are relieved by lying down. Dyspareunia is not uncommon. Frequently disturbances of menstruation are present, often due to complicating affections of the uterus but in many cases apparently due to inflammation of the appendages. In the early stages and during acute exacerbations the menstrual discharge is frequently profuse and still more often prolonged, sometimes lasting for many weeks. In the chronic stage (and this is especially true of tuberculous affections) menstruation is often scanty and infrequent. In some cases puberty appears to be delayed in girls whose appendages have become diseased before that epoch and in not a few of the women the menopause takes place early; in many other cases the menopause is postponed. Various discharges are complained of—mucous, serous, and purulent. In some rare cases such a discharge may be profuse at intervals and result from intermittent hydrosalpinx or pyosalpinx. As a rule, it depends on concomitant endometritis, in which condition intermittent profuse discharges are also sometimes observed. The functions of the neighbouring organs, especially of the bladder, are frequently disturbed; pain and frequency of micturition are complained of, especially at the menstrual periods. Pain in defæcation is sometimes observed. Constipation is one of the most frequent symptoms, but occasionally rectal irritation is present and there may be the passage of quantities of clear or inspissated mucus from the bowels.

In most cases, especially when local symptoms are present, disturbances arise in distant organs. These in many cases combine to form the clinical picture of neurasthenia, which often seems to depend on long-continued and repeated pains, especially in women of neurotic or unstable temperament. In many instances, especially where collections of pus have existed for some time, a condition of toxæmia arises. Constipation often appears to have a marked effect in promoting such a condition. The patient becomes prematurely aged, is sallow and anæmic, worn and haggard; there is a certain degree of wasting; the hair is dull, dry, and becomes thin; the muscular tone is flabby; the appetite is capricious or poor and the digestion impaired; the skin is sometimes dry and harsh; and the urine is often diminished in quantity and loaded with urates. In not a few cases in the course of time, sometimes after many years, severe cachexia gradually develops, and the patient eventually dies from exhaustion or as the result of a terminal infection. Operation for pelvic inflammations in women reduced to the cachectic state is attended by considerable risk, and three of the deaths that have followed my operations for pyosalpinx occurred in such patients.

The symptoms, local and general, above described, may persist for years or may clear up after the adoption of appropriate treatment. In a considerable proportion of the cases intercurrent acute attacks of pelvic peritonitis are observed varying in number and severity. In many women one such attack is observed and with proper care is not repeated; in others repeated attacks take place at short intervals, and in still others the latent intervals may be prolonged, even lasting for years. In patients who have suffered severely enough to call for operative treatment a history of repeated acute attacks is very common. They occur in patients affected with non-suppurative conditions as well as in those with suppurative affections, but in the latter class they are more frequent and tend to recur at shorter intervals. Thus of 40 cases classed as catarrhal salpingitis half the patients gave a history of acute attacks, and of these 13, or one-third, had had three or more; of 19 cases of hydrosalpinx, in eight there had been acute attacks, in six of them, or one-third of all the cases, three or more; among 71 cases of pyosalpinx, 56, or about three-fourths, had had acute attacks, many of them having had three or more. In another group of cases the patient gave a history of an acute attack of pelvic peritonitis months or years before being seen and of having never been well since, while about an equal number of women had been affected with chronic, less severe but persistent symptoms from the commencement of the illness.

The acute attacks of pelvic peritonitis so frequently seen in these conditions are common to them and to inflammation of the vermiform appendix, and without making a careful vaginal and rectal examination it is impossible to tell which of the two affections is present. Occasionally, as in three of my patients, one has to deal with a right-sided pyosalpinx with which the inflamed appendix is closely adherent. The total number of cases in which I have found the vermiform appendix involved is 20; in one case it was adherent to a hydrosalpinx, in three to simply inflamed and adherent appendages, and in 16 to suppurating tubes.

Inflammations of the appendages appear in the female sex to take the place to a large extent that is occupied by inflammations of the appendix in the male. Thus in the seven years from 1900 to 1906 inclusive 1086 cases of appendicitis were admitted into the General Hospital, of which only 364—or as nearly as possible one-third—occurred in the female sex.

There are many points of similarity in the pathology and clinical course of the two affections. In both the appendix and the Fallopian tube we have to deal with a hollow muscular tube with narrow lumen lined by mucous membrane. Each communicates with a viscus from which noxious germs are able to obtain access. Under certain conditions such germs may give rise to inflammation of the mucous and other coats of the tube, and as a result the openings may be closed. In this way a collection of irritant material may take place in a closed cavity, where it may give rise to chronic pains or discomfort or may remain entirely latent.

From time to time, from slight causes or for no obvious reason, acute attacks of inflammation are set up, and as a result of such an acute attack the wall of the viscus may perforate and give rise to peritonitis. In appendicitis the intercurrent acute attacks appear to be much more apt to become diffuse or spreading—a tendency that is explained by the fact that the micro-organisms implicated differ from those usually found in cases of pyosalpinx. In appendicitis the germ most frequently found is the bacterium coli commune, while in cases of pyosalpinx this organism is not common, the condition depending in the great majority of cases on the gonococcus, streptococcus pyogenes, or on various saprophytic organisms. All these germs are relatively of lower virulence than the bacterium coli with the exception of the streptococcus, which as a rule soon loses its virulence and dies out in a closed cavity.

A possible source of infection of the Fallopian tube from the vermiform appendix or *vice versâ* is by way of the connective tissue in the appendiculo-ovarian ligament, but by far most frequently extension of infection from one to the other takes place by simple contact. In all my operative cases the appendix had become adherent in exactly the same manner as any other viscus that happened to be in contact with the tube and ovary at the time of acute inflammation. On examination afterwards the affection of the appendix has usually been limited to its peritoneal coat, and where the change has been more advanced the peritoneum and muscular coats have always been most affected, the mucous membrane being normal and the lumen empty. In some cases, however, the tube or ovary becomes affected secondarily to an appendicitis, as was shown by the case of a girl of 12 in the post-mortem room, where a gangrenous appendicitis had set up an abscess in the right adherent ovary.

The intercurrent attacks of acute pelvic peritonitis are frequently called "obstruction of the bowels," "inflammation of the bowels or of the bladder," sometimes "typhoid," and much too frequently of late years "appendicitis." The onset is most likely to take place at a catamenial period, but very frequently occurs in the interval between two periods. It is occasionally perfectly sudden, usually as the result of an accident, such as a fall, or a blow, or of over-exertion in straining or lifting; in many such cases the onset is accompanied by hæmorrhages into the pyosalpinx itself or into the ovary. Much more commonly the onset is not sudden but acute, pain in one or both sides of the lower abdomen gradually increasing in the course of a few hours or of a day or two until the patient is obliged to give up work and go to bed. The pain is often attended by a feeling of nausea or retching, and sometimes it causes actual vomiting or occasionally a feeling of faintness. Not infrequently the beginning of the attack is marked by shivering, or even in rare cases by a distinct rigor. The temperature rises to 102° or 103°, or even higher; the pulse becomes more frequent, often out of all proportion to the rise of temperature. Pain and frequency of micturition are commonly among the most serious complaints. Much less often there is rectal irritation, amounting sometimes to severe tenesmus and accompanied by the passage of copious mucus, occasionally mixed with blood. The aspect of the woman soon alters, especially if she persists in getting about; her features become drawn, her countenance pale, and she soon presents the appearance of a patient seriously ill. In many such cases a remarkable improvement in the symptoms and in the aspect of the patient follows rest in bed, even for a day or two. According to the severity of the symptoms cases are divided into simple acute pelvic peritonitis and septic peritonitis. In the former cases the symptoms—pain, elevation of temperature, increase in the pulse-rate, and sickness—are all moderate in degree and promptly relieved by rest in bed. In the latter the aspect of the patient is bad, the pulse is rapid, there is more or less frequent vomiting, the abdomen becomes distended, and the patient is sleepless and unable to take nourishment.

DIAGNOSIS.

The symptoms of which the patient complains serve merely to indicate the necessity for careful objective examination, on the result of which depends the diagnosis and consequently the treatment proper to be pursued. The examination involves a complete investigation in the first place of the condition of the pelvic organs and tissues, and in the next of the condition and functions of the rest of the body. The pelvic exploration includes inspection, palpation, and percussion of the lower abdomen; vulvar and vaginal examination by inspection and palpation and sometimes by the use of the sound and speculum; rectal examination; and abdominal palpation with the help of a finger in the vagina and one in the rectum. In a case of pelvic inflammation in the female none of these methods should be neglected, and by their means it is generally possible to obtain fairly accurate information as to the nature of the condition with which we have to deal. Since the indications for treatment depend on the results of examination it will be convenient to consider the two subjects together.

PUERPERAL PELVIC INFLAMMATION.

The puerperal state has been seen to be the commonest occasion for the origin of pelvic inflammations generally; of 260 cases, 176, or nearly two out of three, could with great probability be referred to the last pregnancy, ending either at full term or in abortion. The symptoms of infection may arise early, in the first two or three days, or later, in the second or third week. Frequently the symptoms are only observed when the patient begins to get up towards the end of the second week, but it is probable that more careful observation at an earlier date would show in the great majority even of these cases some indication of abnormality in temperature, pulse, lochia, or other symptoms. The worst cases are those in which infection takes place during or soon after delivery: a chill or rigor with marked rise of temperature and the general symptoms of fever occur as a rule within 48 hours, attended sometimes by pain and usually by tenderness to pressure in the lower abdomen. The lochia sometimes dry up; where the infection is due to saprophytes the discharges become foul; in the worst cases of streptococcal infection they may be normal in naked-eye appearance and amount, as well as in odour. On pelvic examination within the first two or three days after infection the vagina is hot and may be dry, the uterus is tender and flabby, and there is a general feeling of bogginess of the tissues; around the uterus nothing definite can be made out. The patient may die from acute toxæmia without developing more distinct local signs. At the beginning of the infection a leucocyte count is of importance in prognosis, a high percentage being of good omen and a low one unfavourable. The early formation of a distinct inflammatory exudation is a favourable sign, as indicating the local resisting power of the tissues.

If the patient survives the signs alter in the course of a few days as the local barriers to the spread of infection begin to be formed. From the sero-fibrinous exudation at first thrown out a deposit of fibrin takes place; the serum drains away or may accumulate in the peritoneal cavity, and especially in Douglas's pouch. The tissues in which fibrin is deposited are brawny and of board-like hardness; and from the shape and position of such a brawny tumour an inference can be drawn as to the part affected. In cellulitis the portion of the cellular tissue most commonly involved is that at the base of the broad ligament on one side, and here a more or less conical tumour forms with its truncated apex at the isthmus of the uterus, which is sometimes pushed towards the opposite side, and with its outer end or base spreading widely over the side and posterior wall of the pelvis, as well as upwards over the brim into the iliac fossa; the vaginal fornix is obliterated, the vaginal wall pushed downwards by the lower surface of the tumour, which is usually concave, and extends low down on the side of the pelvis. Through the rectum the brawny hardness may be felt extending backwards on the pelvic wall as far as the middle line, involving the utero-sacral fold and coming close to the side of the gut. Frequently at this stage the hardness extends to some extent towards the other side behind and in front of the supravaginal cervix, and the swelling may open up the layers of the broad ligament, the uterus being apparently embedded in the side of the tumour. The upper abdominal surface of the swelling is usually well defined but tender.

If the peritoneum is the part affected the fibrinous deposit takes place on the surface of the serous membrane and in the connective tissue immediately below it as well as on the surface and in the walls of the organs in contact with it, especially of the large and small intestine and omentum. When the peritonitis extends above the brim of the pelvis a fixed tender hardness is felt in the lower abdomen, the upper border of which is not well defined, partly by reason of the accompanying distension and muscular resistance, and partly because the upper border of the indurated tissues gradually shades off. The upper part of such a swelling is

resonant to percussion, being formed of coils of intestine with thickened walls. On vaginal and rectal examination the whole pelvis is roofed in by a firm board-like hardness, from whose middle the vaginal cervix projects downwards. From the cervix the hardness extends in curved surfaces with the concavity downwards to the sides of the pelvis, over which it spreads widely. Through the rectum it is made out that the tissues behind the uterus and above the vagina are hardened, and that the utero-sacral folds are frequently infiltrated and encroach on the lumen of the gut. Behind the upper part of the wall of the vagina a tongue-like process is commonly felt extending downwards in the recto-vaginal septum for some distance, usually ending below in a sharp border. All these changes, as felt by the vagina and rectum, affect the subperitoneal layer of connective tissue—that is to say, they are the signs of a general pelvic cellulitis; but in such cases the further progress of the case shows that the cellulitis is secondary to peritonitis, which constitutes the primary and principal affection.

In many cases an accumulation of serum takes place in the peritoneal cavity in one or several loculi and in this case the principal collection is found, as a rule, in Douglas's pouch. A tender, fixed median lower abdominal swelling may extend as high as the umbilicus; the contour may be fairly well defined; percussion shows that the upper and lateral parts of the tumour are formed by adherent intestine, the lower portion above the pubes being dull. Internal examination shows that the cervix is pushed upwards and forwards behind the pubes and that a rounded tense or yielding elastic swelling extends downwards to a considerably lower level, filling the pelvis and flattening the rectum against the posterior pelvic wall. On abdominal examination the body of the uterus can frequently be felt distinct on the front of the tumour. Apart from the history such a tumour might contain serum, blood, or pus. Blood would be found if the history was that of a ruptured tubal gestation. Under the conditions we are now considering, infection following parturition or abortion, the contents would be serum or pus, and the solution of the question as to which of the two is present has to be sought in the general condition of the patient and in the accompanying physical signs. Where the contents are serous the aspect and general condition of the patient are less grave; the temperature is raised, but is not so constant and not so high as in a case of suppuration; the consistence of the tumour is more elastic, like that of a thin-walled cyst. When suppuration takes place there is, as a rule, a considerable amount of brawny hardness of the surrounding tissues, and the vagina and cervix are œdematous and swollen and dark bluish in colour. A determination of the proportion of leucocytes present in the blood is often of value, although in the early acute cases a leucocytosis of 15,000 or more is frequent even when the exudation is merely serous. In suppuration the blood-count may be no higher at first, but is more persistent or shows a gradual increase.

When septic infection spreads by way of the veins the pelvic signs at first are those of an inflammation of the uterus, which remains tender and enlarged, usually flabby, of the consistence of wash-leather, but later becoming harder. The tissues around the uterus remain soft, but it is often possible to make out small tender cords or nodules formed by the thrombosed veins. As the infection progresses repeated rigors occur with rise of temperature to 103°, 104°, or higher, followed by remission, and these, together with the slightness of the physical signs discovered on a careful pelvic examination, are characteristic.

A late puerperal infection—that is to say, one in which the symptoms first become marked towards the end of the second week or later, is usually due to pelvic cellulitis, to phlebitis, or to upward spread of a gonorrhœal infection.

In the early stages of puerperal infections the indications for treatment are (1) to attempt to limit the entry and spread of the infecting organisms, and (2) to support the patient in her fight against the invasion. The first indication is met by cleansing the uterus and vagina and by keeping the patient absolutely at rest, every movement appearing to favour the spread of organisms further into the tissues. The cleansing should be undertaken without the slightest delay on the first onset of suspicious symptoms and is best effected by the use of the finger to explore the uterus and remove any portions of placenta or membranes that may be left behind, followed by a copious douche of many pints of salt solution or of some mild antiseptic; afterwards the employment twice or three times a day of large vaginal douches of weak lysol or izal solutions is advisable. The use of the curette in these cases is to be deprecated on at least three grounds: it is impossible to tell when the uterus is empty; it is particularly easy in the soft condition of the uterine muscle to cause injury or even perforation; and finally by removing the superficial layers of the endometrium the barriers of fibrin and phagocytes are removed and fresh blood and lymph vessels are opened up for the free entry of germs.

The second indication, to support the patient in the struggle, is to be met by absolute rest to spare her strength; by nourishing diet suitable to the state of the digestive organs to keep up her strength; by quinine in large doses, as a general and nervine tonic, and for its effect in promoting leucocytosis; by sponging the skin with tepid water when the temperature rises above 102°; by attention to the regular evacuation of the bowels; by the administration of alcohol in regulated doses or of hypodermics of strychnine when the use of these drugs is indicated by the state of the pulse, tongue, or skin; and by the relief of pain in the first place by the application of heat to the lower abdomen, and in the second by the administration of belladonna or morphine in the smallest possible effective doses. In addition to these means methods have been devised with the purpose of directly antagonising the germs or neutralising their toxins. Most of them have so far not advanced beyond the experimental stage. Of those to which I have given a fair trial may be mentioned antistreptococcic serum which has occasionally appeared to me to be of service in appropriate cases; and collargol in subcutaneous injections, or by inunction in the form of Credé's ointment, which has produced no obvious effect.

In the early stages of pelvic inflammations surgical methods are indicated when pus has formed, or where a tense elastic swelling is present in Douglas's pouch. In the latter case an incision by knife or scissors is made immediately behind the cervix and extended as far as may be necessary to each side; the lateral portions should be inclined backwards, so as to make the whole incision convex forwards. When the fluid is evacuated the opportunity is taken to ascertain the condition of the appendages by bimanual examination. The cavity is afterwards packed loosely with iodoform gauze, and this is changed every second day. The relief afforded by this method of treatment is often marked and immediate, and the relief of tension appears to have a considerable effect in limiting the degree of the inflammation as well as its spread.

When pus has formed it should be let out at the earliest possible moment by the nearest route. Where it has collected in Douglas's pouch the posterior vaginal incision is used; for abscess in the lateral cellular tissue an incision one inch above and parallel to the middle two-fourths of Poupart's ligament is carried down through the tendon of the external oblique muscle and the transversalis fascia into the subperitoneal space. When the pus collects in a space in the peritoneal cavity above the pelvic brim an incision must be made directly into the abscess cavity. In any case great care has to be taken not to open up the general peritoneal cavity; the pus is removed by swabs or by gentle local irrigation and the cavity freely drained by rubber tubes or gauze.

In the early stages of puerperal infections treatment by more radical operations offers little chance of success. Patients who are gravely septic bear anæsthetics and operations very badly. On the other hand, recovery often takes place without the aid of surgery in cases that appear practically hopeless. Most of the patients operated upon under these conditions die and it is open to doubt whether the few who survive do so because of, or in spite of, the operation. My own experience of removal of the uterine appendages with or without the uterus in six cases of recent puerperal septic and pyæmic conditions has not been such as to encourage me to add to it; in none of the patients was death prevented, while in at least three it was hastened. The main indication is to let out pus and afford drainage; care should be taken not to interfere with the protective barriers set up by nature and especially not to be too vigorous in cleaning away the fibrinous exudations and breaking down the adhesions that shut off the general peritoneal cavity.

GONOCOCCAL PELVIC INFLAMMATIONS.

In rare cases gonorrhœa may lead within two or three weeks of the infection to a virulent and spreading peritonitis. Much more commonly the inflammation only spreads upwards into the tubes and peritoneum after the lapse of

months, or sometimes even years. The relation of the infection to pregnancy and the puerperium is of peculiar interest not only from the scientific point of view but from that of the practising obstetrician. In married women a severe vulvo-vaginal and cervical gonorrhœa is not very common; the great majority of infections are due to marriage with men in whom gonorrhœa of more or less ancient date has never thoroughly healed. Some practitioners there are who hold the opinion that gonorrhœa once acquired never entirely clears up, but this is undoubtedly a gross over-statement. In the circumstances attending marriage a gleet, however slight, is apt to become more virulent, and gonococci become implanted, usually in the cervix and in the urethra; the resulting catarrhal inflammations are frequently slight and attended by a trifling sense of local irritation, white or yellowish discharge, and some heat and frequency in micturition, all which symptoms may pass off in the course of a few weeks. If the patient conceives the discharge and local irritation may become more marked, but are commonly supposed to be due to the pregnancy. When delivery takes place either in the earlier months or at full term the gonococci find conditions favourable for their growth and development, and extension upwards into the body of the uterus and thence into the Fallopian tubes and peritoneal cavity is particularly apt to occur. This upward spread takes place gradually; at first the endometrium is invaded, as is shown by the lochia becoming more profuse and continuing to be bloody for a longer time than usual and perhaps by a little local uneasiness, especially in connexion with the bladder; after a few days the tubes become involved, but this only gives rise to a little uneasiness or dull aching pains in the sides of the lower abdomen; finally, the infection spreads into the peritoneal cavity and then, for the first time, the local pains become severe and the temperature and pulse markedly raised. The apparent beginning of a gonorrhœal inflammation in the second or third week or even later after delivery is thus explained, the upward extension taking a certain time to develop. The physical examination of such a case before the peritoneum is invaded may show thickening in the course of the Fallopian tube, more easily observed in the inner part near where it joins the cornu of the uterus. As a rule, however, attention is not called to the pelvis until the peritoneum is involved and then the signs of a localised peritonitis are present with an amount of serous effusion into the cavity and of induration of the surrounding tissues varying with the severity of the inflammation. In some cases puerperal gonorrhœal infection sets in suddenly with fulminating symptoms of peritonitis, but even in these cases the symptoms in the course of two or three days frequently undergo a remarkable change for the better at the same time as the local signs become those of a limited pelvic peritonitis.

The diagnosis of the gonorrhœal nature of a case of puerperal infection, as of gonorrhœa generally, depends upon the recognition of gonococci in the discharges from some of the infected surfaces; search has to be made in the secretions of the urethra and cervix, and in the lochia. The lochia, at first bloody, later becomes purulent or mucopurulent, often of greenish colour. Other indications may be present. If pressure on the urethra from above downwards discloses the presence of opaque secretion, that is in itself suspicious, and the suspicion becomes more marked if Skene's ducts contain such secretion, even in minute quantity; sometimes these ducts are felt to be thickened, hard, and tender, and occasionally the whole urethral wall is thickened and indurated. Much less commonly the ducts of Bartholin's glands are inflamed and contain purulent secretion which can be pressed from them; or the orifices of the ducts are surrounded by a red areola; or the glands themselves are hard, tender, and enlarged by inflammation. In the presence of any of these signs in connexion with the urethra or Bartholin's gland a presumption of infection by the gonococcus is raised, but remains merely a presumption, since the same changes may be due, though rarely, to other causes. The affection of the baby by purulent ophthalmia, which in the great majority of cases is due to infection by the gonococcus, may be an important indication of the nature of the case. The late onset of the infection in the puerperium and the condition of the discharges are also suggestive but the diagnosis can only be made certain by the discovery of the gonococcus. In the early stages of the disease this is easy, the organisms being present in enormous numbers, but soon the gonococcus becomes crowded out by the growth of other germs, and after a lapse of a few weeks its detection becomes difficult or even impossible.

The treatment of a case of acute gonorrhœal peritonitis is conducted on the usual principles, with the addition of attention to the inflammation of the accessible portions of the tract, the vulva, vagina, and cervix. Where there is severe acute inflammation of this part of the tract absolute rest in bed is indicated, together with the use of bland and unirritating douches. Even when the affection has not penetrated to the tubes or peritoneum it is best in the acute stage of gonorrhœa not to attempt any heroic measures to cut the affection short, such treatment rendering the upward spread of the disease more likely. When the acute signs subside applications of 2 or 3 per cent. solution of nitrate of silver may be made with advantage to the affected surfaces.

SUBACUTE PELVIC INFLAMMATION.

When an acute attack of puerperal, gonorrhœal, or other inflammation begins to subside nature undertakes the task of clearing away the inflammatory exudation and other débris resulting from the struggle. In equal steps with the improvement in the local signs and general condition of the patient absorption of the more recent exudations goes on and gradually the signs of peritonitis, with its accompanying cellulitis, are replaced by those proper to the underlying condition of the tubes or ovaries, the uterus returning more or less completely to its natural position. Remains of hard, brawny exudations may persist for some time, most commonly on the side of the pelvis, on which in many cases of pyosalpinx a hard, uneven elevation is felt, widely spreading over the surface. Absorption of this exudation and of the collections of serous fluid in the peritoneal cavity takes place with varying rapidity; sometimes a tumour of considerable size will disappear in the course of two or three weeks, in other cases the swelling subsides to some extent but remains considerable for many months, and this appears to depend commonly on collections of pus in the ovary or tube.

The amount of recovery after an attack of severe inflammation is often surprising and may be so complete that conception takes place promptly and the patient may even pass through the resulting pregnancy with comparatively little disturbance. In a very large proportion of the cases, however, recovery is only partial, the organs and pelvic peritoneum remaining in a state of subacute or chronic inflammation, and the patient suffering more or less severely from the various chronic symptoms that have already been detailed, or frequently experiencing repeated acute attacks. In some cases these attacks gradually decrease in severity and after the second or third there is no recurrence. Such a course has appeared to me to be more frequent after infection by the pyogenic organisms. A typical case of this kind was the following:—

The patient, aged 25 years, was admitted to the General Hospital, Birmingham, on the eighth day after labour with a retained placenta and pelvic abscess; the leucocyte count was 24,000, the temperature was 101° F., and the pulse was 116. Pus giving a pure culture of streptococcus pyogenes was evacuated by a posterior vaginal incision and the patient was discharged a month later. Three months after the labour she was readmitted with an acute attack of peritonitis. There was a mass chiefly in the right posterior quarter of the pelvis, the temperature was 100·8°, the blood count was 9000, and the pulse was 112. The attack subsided promptly with rest in bed. Three months later she was admitted with a third attack of acute pelvic peritonitis attended by considerable exudation behind the uterus. The general appearance was good, the temperature was 98·4°, the pulse was 76, and the leucocyte count was 11,700. Through a posterior vaginal incision serous fluid was let out, which gave a feeble growth of staphylococcus albus. Bimanual examination with two fingers through the incision showed that there was a small swelling about each set of appendages, probably due to matting. The patient made a good recovery and has remained well since. Here the streptococci died out completely in less than six months, and the successive attacks of acute pelvic peritonitis gradually diminished in severity.

In other cases the acute symptoms soon subside, the patient returning to work and remaining fairly well, even for long intervals, and then on slight occasion developing a dangerous illness. Such a case occurred in a woman, aged 22 years, who had had a six months' miscarriage 15 months before admission and had made a fair recovery. Three days

before admission the patient was at work, in the course of which she made a sudden turning movement which appeared to cause something to give way in the lower abdomen. On admission she was gravely ill, and was constantly vomiting; the temperature was 101° F., the pulse was 132, and the leucocyte count was 28,000. A double tumour was present in the posterior part of the pelvis; lower abdominal distension and rigidity prevented the determination of the upper border of the swelling. Eight days later the patient was very much better, the temperature varying from 98° to 101°, the pulse being 100, and the leucocytes numbering 17,000. The mass was now well defined, very much larger, and extended upwards to the umbilicus. 14 days later the swelling had nearly subsided into the pelvis, the temperature and pulse were normal, and the leucocyte count was 11,500. A diagnosis of double pyosalpinx was made and five weeks after admission the abdominal radical operation was performed, both tubes being found distended with pus. A small collection of pus was also present in a pouch among the intestines at a little distance above the pelvic brim; this pus and that from the tube both gave pure cultures of streptococcus pyogenes. The patient made a slow but otherwise satisfactory recovery and was discharged to a convalescent home six weeks after the operation.

Treatment during the subsidence of acute symptoms has to be directed towards aiding the patient to get rid of the débris. For this purpose the most important means is prolonged rest, until the acute symptoms have completely passed off. If arrangements can be made for much of this rest to be taken in the open air the patient convalesces with greater rapidity. Nourishing diet suited to the digestive powers, careful attention to the excretions, and the administration of tonics are the other important points in the general management of such a case. Means intended to promote absorption comprise the local use of copious hot vaginal douches, vaginal tampons saturated with glycerine, glycerine and ichthyol, with solutions of iodide of potassium and vinum opii, or other agents. The application of iodine or of repeated flying blisters to the lower abdomen is of less use. In many cases the local application of heat to the pelvis by means of an electric bath has appeared to me to be of decided service. In the more chronic cases the continuous administration of small doses of mercury and iodide of potassium, as recommended by Professor J. W. Taylor, deserves a trial. When the acute symptoms have completely subsided gradually increasing exercise, especially driving and walking, is of service and a change of air and scene is indicated. For some months it is advisable for the patient as far as possible to keep her bed during the menstrual periods and at any rate to be careful to avoid at this time any form of over-exertion, whether at work or exercise, and particularly to avoid "catching cold."

At any time during the months succeeding the acute attack the question of operation may arise and I find that among my operations 11 non-suppurative cases out of 83 and 29 suppurative out of 152 were operated upon within a year after labour or abortion. Among the suppurating cases pus in the ovary and pelvic abscess formed the most frequent conditions calling for early operation, 12 cases of pelvic abscess out of a total of 41, and 12 of suppurating ovarian out of a total of 31 being operated upon in these circumstances. The principal indications for early operation are found sometimes in the persistence of severe symptoms such as fever, pains, and general illness, and at others in the occurrence of repeated acute attacks of pelvic peritonitis following each other at short intervals. In such cases it is important to wait whenever possible until there is a strong probability that the pus has become sterile, a point to which I shall return later.

CHRONIC PELVIC INFLAMMATION.

In the chronic stage of pelvic inflammations, when active changes have long since ceased, the amount of local change varies enormously. In a large number of cases the only physical signs are those of adhesions, as shown by the immobility of organs which in normal circumstances are moveable. The uterus is not infrequently bound down in retroversion by adhesions left after pelvic peritonitis, the adhesions being found most dense and abundant about the body of the uterus itself, the ends of the Fallopian tubes sometimes remaining free in cases where infection has spread through the wall of the uterus into the peritoneal cavity. Where the spread has been by way of the tubes the adhesions are most abundant and firm in the neighbourhood of the peritoneal ostium. The adherent ovary does not slip from between the fingers in bimanual examination, so that it is particularly easy to palpate. The position of such an adherent ovary varies; sometimes it is plastered on to the side of the pelvis, a considerable interval intervening between it and the side of the uterus. More often it is adherent to the back of the broad ligament at a lower level than natural, often close to the side of the uterus.

In many cases the signs of an old inflammation are more marked and are to be found in matting together of the appendages to form a characteristic swelling, which is sometimes called the tubo-ovarian tumour. This tumour comprises the thickened Fallopian tube, ovary, and broad ligament, all of them adherent to each other, and the mass occasionally also adherent to other structures, especially the omentum, coils of intestine, and uterus. A vivid imagination may sometimes trace the thickened tube in its course round the ovary, which forms a small firm mass in the middle and lower part of the lump. Where there are adhesions to intestine the apparent size of the tumour often varies remarkably at different times, being larger when the adherent coils are distended and smaller when care has been taken to empty them before examination. The shape of the tubo-ovarian tumour is uneven on the surface, on the whole rounded or oval; the consistence characteristically varies from part to part, the ovary forming a firm part of the tumour, the tube usually feeling less firmly solid, and any cyst that may be present in the ovary or in connexion with the layers of broad ligament forming a softer portion. The mass is tethered more or less firmly by adhesions; there is tenderness, usually not very severe. In two-thirds or more of the cases the affection is bilateral, though usually the changes found differ on the two sides. A smaller similar tumour may be present on the opposite side, or there may be merely the signs of an adherent ovary, or the uterus may be drawn over and adherent to the opposite side in the absence of any obvious swelling in that situation. Examination by the rectum enables the size, shape, and consistence of the tumour to be determined more accurately and its relation to the back of the broad ligament and to the uterus to be more clearly defined.

In other cases the tube is distended into a sac containing serum or pus. Hydrosalpinx forms a thin-walled cystic swelling; pyosalpinx a hard, thick-walled tumour. In some of the larger cases of hydrosalpinx the tumour forms a considerable swelling rising out of the pelvis into the lower abdomen, where it forms a more or less rounded well-defined tumour extending as high as, or even higher than, the umbilicus, not tender, and in this situation often showing a certain amount of mobility. Bimanual examination shows that the uterus in the great majority of cases is on the front of the tumour, though occasionally it is found retroverted with the tumour lying above and in front. In the smaller cases the distended tube, together with the ovary, forms a mass varying in consistence from part to part, the ovary lying below in the midst of the tumour and feeling firm, while the dilated tube, softer and more yielding, curves round it. Where the hydrosalpinx has attained a greater size the outer end forms by far the larger portion and it may sometimes be made out that the inner end attached to the cornu of the uterus is thickened to the size of a finger or so and characteristically convoluted. The outer and lower part of the tumour is practically always densely adherent to the side of the pelvis or the back of the broad ligament, as is evidenced by lack of mobility. In the largest cases and in those where the uterus is retroverted the relation of the tumour to the uterine cornu is often difficult or even impossible of recognition. In a small number of cases a hydrosalpinx opens up the layers of the broad ligament and extends downwards towards the pelvic floor; in such cases the uterus is pushed forward and towards the opposite side and the physical signs are those of an intra-ligamentary ovarian cyst. In most cases of distended tube the appendages of both sides are affected, but as a rule not symmetrically. With a hydrosalpinx of fair size there may be found a smaller hydrosalpinx on the opposite side, or merely the signs of an adherent ovary, or of an ovary and tube thickened and matted together, or the uterus may be drawn over and adherent to the opposite side in the absence of any obvious swelling in that situation. A hydrosalpinx is not tender to pressure. Any tenderness that may be present is due either to the condition of the ovary or to that of the pelvic peritoneum.

Pyosalpinx forms a hard, uneven, and immoveable tumour; the hardness depends on inflammatory thickening of the walls of the tube and of the broad ligament and pelvic peritoneum as well as on the incorporated ovary. The consistence often varies at different parts; the pus tends to collect more in the outer ampullary portion of the tube, in which position there is accordingly often a softer and more yielding part. The mass is usually tender, though in chronic cases this sign may be entirely absent. The shape of the tumour is irregular and uneven. Occasionally it can be made out that there is a large, irregular, rounded tumour with a thickened firm prolongation uniting it to the cornu of the uterus. In the larger cases the shape is sometimes elongated and curved like that of a sausage or banana, and in the same cases the consistence, owing to the relative thinness of the walls and abundance of fluid contents, is frequently softer and more cystic, sometimes resembling that of a hydrosalpinx.

The physical signs are bilateral in more than two-thirds of the cases, but as in the case of hydrosalpinx, so here, the signs are usually not symmetrical. Where two large tumours are present they frequently come into close contact in the middle line, but it is generally possible to make out that a large mass filling up the posterior portion of the pelvis is double by feeling an antero-posterior groove on the lower surface, either through the vagina or much more easily through the rectum.

In the intercurrent acute attacks of pelvic peritonitis great variety in position is found in the physical signs, and these vary according as the peritoneum with its adjacent connective tissue is infiltrated and hardened (fibrinous peritonitis) or as collections of fluid form in the peritoneal cavity (serous peritonitis). The upper portion of the tumour is formed by adherent intestines and omentum and consequently the upper limit feels ill defined on bimanual examination. As absorption takes place the induration diminishes irregularly and gradually the physical signs of enlargement of one or both sets of appendages become marked. The induration tends to remain longest as a rule on the outer and posterior pelvic wall where it may often be felt as an uneven, broadly adherent firm plate between the outer end of a pyosalpinx and the pelvic wall.

In cases of pelvic inflammation, no matter to what germ the disease may be attributed, it is of the greatest importance in deciding upon treatment to be able to diagnose whether pus has been formed. Help in making the diagnosis may be sought in the physical signs. In the early stages when, in the middle of hard, board-like exudation, patches of softening make their appearance along with the general symptoms of suppuration, the presence of pus and its location become evident. In the presence of an acute intercurrent attack of pelvic peritonitis it is impossible to diagnose the presence of pus until the acute symptoms have passed off, and absorption of the recent inflammatory products has taken place. Then, if the case be one of pyosalpinx or of suppuration in the ovary, the resulting tumour is hard and nodular and usually firmly fixed by adhesion to the wall of the pelvis. If no pus be present the consistence is less dense, and frequently thin-walled cystic portions may be made out, due usually to small cysts in the ovary or to hydrosalpinx. Much help is afforded by a leucocyte count in many cases, but this requires to be taken into consideration along with all the other symptoms and physical signs. The leucocyte count is merely a link in the chain of evidence, a strong one no doubt, but still only a link. In acute intercurrent attacks of pelvic peritonitis the blood count is commonly found to be raised, being often 15,000 or more, even in non-suppurative cases. As the attack passes off the blood count in these cases rapidly falls to normal. In suppurative cases, on the other hand, the count is sometimes observed to increase or to remain for a considerable time above normal. The location of the pus has a marked influence on leucocytosis, collections in the peritoneal cavity as a rule giving a higher and more persistent blood count than collections in closed cavities, as, for instance, in a pyosalpinx or suppurating ovary. The particular micro-organism present has also an influence. In attacks of acute gonorrhœal salpingitis the blood count is raised only to a moderate degree, usually not more than 14,000 or 15,000. In infection by the staphylococcus and streptococcus the blood count is frequently much higher. In tuberculous affections the number of leucocytes does not exceed, and often falls below, the normal average; when it remains persistently high it points to the occurrence of a secondary infection by pyogenic or saprophytic organisms. In a doubtful case repeated estimation of the leucocytes is important and frequently enables us to form a correct opinion as to the presence of pus.

When pus has formed it is of great advantage to know whether it still contains living organisms or not. Where these are still present it is better, whenever possible, to postpone radical operation, and to content ourselves with opening and draining abscess cavities in the peritoneum or cellular tissue. Pathogenic and saprophytic germs in closed sacs usually quickly die out but the time taken in the process varies very greatly. Nine months has been suggested as the time after which one may reckon with reasonable certainty on pus having lost its virulence, but in many cases the germs disappear in a considerably shorter time than this. In some cases, on the other hand, germs live for much longer, and in one of the cases above related living streptococci were found in a pyosalpinx that ruptured 15 months after its origin in parturition.

The presence or absence of fever is no certain indication, though it has a certain importance; in the majority of cases in which fever is persistent germ-containing pus is present and therefore it is better to wait, unless there are symptoms of urgency. A high leucocyte count usually means the presence of virulent pus and where present it is also better to put off operation. In many cases, however, leucocytosis is present in cases of suppuration where the pus is sterile.

The exploring needle may prove useful in obtaining pus from cases of pyosalpinx for the purposes of bacteriological examination and when carefully used with aseptic precautions the small puncture necessary is not likely to give rise to trouble. The puncture should be made through the vaginal fornix after careful bimanual examination to determine the probable situation of the pus.

In chronic cases of pelvic inflammation it is frequently impossible to determine the germs which caused the condition, these having long ago died out. Where foul-smelling pus is present the cause has been either some of the putrefactive organisms, or the bacterium coli commune, but even here the original cause of infection is often uncertain, because an old collection of pus may become secondarily infected by the bacterium coli penetrating through the wall of an adherent coil of intestine. This seems to be a not infrequent occurrence in tuberculous pyosalpinx, as was proved in a recent case of my own, and as I believe happened in at least two other instances. Where the pus in a pyosalpinx is sterile, and has no disagreeable smell, it is often impossible to tell whether it owes its origin to the gonococcus, or to the streptococcus, or other pyogenic organisms. In many cases, however, even in the most chronic class, it is possible to obtain some assurance of the nature of the case. The gonococcus has the peculiarity of affecting many different parts of the genital tract, and the inflammations caused by it tend to persist indefinitely; frequently, therefore, evidence can be found in the state of the urethra, vulva, vagina, and cervix, which, while stopping short of actual proof, nevertheless affords a strong presumption of the origin of the disease in the appendages. Of 94 non-suppurating cases of all kinds, 20 showed fairly conclusive evidence of gonococcal origin; included in these figures were eight cases of hydrosalpinx out of a total of 23. Of 152 suppurative cases 45 were believed on the clinical evidence to be gonococcal. In all probability in a considerable proportion of the remainder the gonococcus had been the effective agent, but had left no trace behind other than the diseased appendages. In a much smaller proportion of cases, two of the non-suppurative and seven of the suppurative, evidence of syphilis was obtained, but it did not appear that this disease had given rise to the changes in the tube and ovary.

The treatment of chronic cases of pelvic inflammation depends partly on the physical signs that are present, and still more upon the course of the affection. In some cases the disease has run its course, leaving only adhesions about the organs, which give rise to no symptoms, the condition of the appendages being discovered, so to speak, accidentally; such cases require no treatment of any kind. In other patients the complaints and symptoms which make up the clinical picture of neurasthenia, are found in patients who have the signs of chronic adhesive pelvic peritonitis or of salpingitis, and it becomes difficult to decide whether active treatment for the condition of the appendages is indicated. Often such patients complain more or less of pains in the genital zone, and of dysmenorrhœa, and a vicious circle

is set up, the weak general condition of the patient, and especially of her nervous system, magnifying any pains that are present, and the local disturbance in its turn causing deterioration of the general strength. Such patients are frequently of a neurotic stock and included among them are many highly intelligent young women, sometimes tall and thin, but often below the average size, and slim in proportion. Patients in the same group frequently have a floating kidney and occasionally suffer considerable inconvenience from that cause. They are generally women in the twenties or early thirties and I have not been able to discover what becomes of their complaints after the age of 40. In them surgical treatment is usually of little benefit. The disuse into which the term chronic ovaritis has fallen has made it more and more difficult to label the cases, but has probably proved a gain to the patients. The condition appears to be due primarily to neglect of the elements of hygiene, to the want of proper exercise and fresh air, and to improper feeding. Often the teeth are defective and, as a result of all these causes, the functions of digestion and assimilation become defective.

In another group of patients with signs of salpingo-ovaritis the complaint is merely that of sterility. Sometimes in these cases there is a temptation to suggest operation with a view to opening up the tubes. Before deciding upon such a course it is necessary to make sure that no trace of gleet remains in the cervix or urethra and that there is none in the husband, otherwise the operation can hardly prove other than a failure. In the treatment of these cases there is no question of the ordinary routine treatment for sterility, that of dilatation of the cervix, and it is well to bear in mind that whenever there are physical signs, however slight, of old disease of the appendages dilatation of the cervix is attended by very considerable risk.

In other cases in which there are physical signs of old inflammation of the appendages, chronic complaints of pain of moderate severity, of dysmenorrhœa, or of menorrhagia, or leucorrhœa are made. In these cases the usual treatment of the symptoms by medical means generally suffices but in ordering and carrying out such treatment it has to be borne in mind that a fresh acute attack may easily be set up. Surgical procedures which are usually of minor importance, such, for instance, as dilatation or curetting, and strong applications to the interior of the uterus, are generally to be avoided and where considered necessary should be undertaken with even more than the usual precautions.

In patients who make their appearance for the first time in an intercurrent acute attack it is often necessary to decide whether operation should be recommended at once or whether medical treatment should be continued. Occasionally it may be necessary to operate at the height of an acute attack to endeavour to save the patient from imminent death. Usually the urgency is less and experience has proved that where it is possible to postpone operation success is more easily and safely attained when the operation is performed at the end of an acute attack. It would appear that the patient's blood and tissues become protected, presumably by antibodies of various kinds, which are heaped up during the course of an acute attack, and that the immunity thus acquired diminishes with some rapidity after the acute attack has completely passed off. The decision to make it a general principle that operation should be undertaken after the patient has had a certain number—one, two, or more—of acute attacks is not easy in these cases as in appendicitis. In the latter case we are dealing with an organ that is probably of no use to the economy, while in the former we have to do with organs which, in addition to their own proper functions, exercise an important influence on the whole of the body, so that it is desirable whenever possible to preserve them. The decision to operate in a patient who suffers from acute attacks must depend on the social position of the patient as well as on the number and severity of attacks. Where the severe attacks follow each other at short intervals and there are marked signs of changes in the appendages operation should be undertaken. Where the attacks occur at increasing intervals and become gradually less severe, and where the physical signs and symptoms in the intervals do not point to the presence of pus, medical treatment should be patiently persisted in.

When operation has been decided upon in a case of pelvic inflammation it is necessary to decide by what route, vaginal or abdominal, the operation should be done. Both routes have their special advocates who prefer one or the other in every case. Each, however, has its own sphere. Operations through the vagina are most useful in certain of the less severe cases in which intervention is indicated. Where the tube and ovary are enlarged moderately and adherent chiefly to the uterus, so that they move fairly freely together, then operation through the vagina, preferably through the anterior fornix, is advantageous; but where the appendages are adherent firmly to the side of the pelvis, where there are wide-spread adhesions, or where the uterus cannot be brought down to the vulva, the abdominal method is by far preferable.

Operations for Pelvic Inflammation.

—	Non-suppurative.		Suppurative.			Tuberculous appendages.	Total.
	Salpingo-ovaritis.	Hydrosalpinx.	Pyosalpinx.	Suppurating ovaries.*	Intra-peritoneal pelvic abscess.†		
Abdominal section.							
Exploratory...	—	—	2 (1)	—	—	1	3 (1)
Removal of one set of appendages	24	6	28 (1)	5	—	3	66 (1)
Removal of both sets of appendages... ...	9 (2)	5	25 (4)	4	—	3 (2)	46 (8)
Breaking down adhesions, ignipuncture, salpingostomy ...	19 (1)	3	—	—	—	—	22 (1)
Incision and drainage of abscess...	—	—	—	—	17	—	17
Hysterectomy	3	4	49 (5)	4	—	3	63 (5)
Total	55 3)	18	104 (11)	13	17	10 (2)	21 (16)
Vaginal cœliotomy.							
Removal of one set of appendages	3	1	2	1	—	1	8
Removal of both sets of appendages... ...	—	—	—	—	—	—	—
Resection of ovary ...	6	—	—	—	—	—	6
Adhesions broken down, ignipuncture, salpingostomy, &c.	7	3	—	—	—	—	10
Posterior vaginal incision...	—	—	—	—	12 (2)	1	13
Vaginal hysterectomy	—	1	3	—	—	—	4
Total	16	5	5	1	12 (2)	2	41 (2)

The numbers in brackets signify deaths following operation.
* Excluding 17 with pyosalpinx.
† Excluding 12 with pyosalpinx.

In 41 of my cases operations of various kinds have been carried out through the vagina. In 13 of these an incision for the evacuation of pus has been made, usually through the posterior fornix; two of these cases died, both patients being in a gravely septic condition at the time of operation. In several other cases a posterior vaginal incision was made by myself or others and at a subsequent date when the affection of the appendages demanded it a second and more radical operation was performed. In 16 cases various conservative procedures were undertaken through the vagina, including salpingostomy, breaking down adhesions, ignipuncture, and resection of the ovary. In eight cases one set of appendages was removed by this route for inflammatory affections. In one case of double hydrosalpinx and in three of double pyosalpinx, all complicated by prolapse of the uterus, the vaginal radical operation was performed.

In 21 of the vaginal cases operation was undertaken for various non-suppurative conditions and for the same group of affections, including hydrosalpinx, 73 of my operations have been performed by the abdominal route. The procedures here include the removal of one set of appendages in 30 instances; of both sets in 14; various conservative operations in 22; and the abdominal radical operation in seven, including four cases of large and very adherent hydrosalpinx. In the total number of 94 operations for non-suppurative conditions there have been three deaths. One of these was due to pulmonary embolism on the eighth day after operation, the patient with normal temperature and

pulse-rate having shown no previous symptoms of danger following the operation; the second death was due to anæsthetic gangrenous pneumonia, the pelvic condition as observed at the necropsy being normal and the abdominal incision firmly closed. The third death was caused by peritonitis consequent on an oozing of six or eight ounces of blood from separated adhesions. At least nine of the patients operated upon for non-suppurative conditions of the appendages have subsequently borne children.

In the worst cases of suppurative affections the choice of operation lies between double oöphorectomy, the abdominal radical operation, and the vaginal radical operation. The vaginal operation has been largely practised by surgeons in France and Germany. In its favour the claims are made that shock is less, that the general peritoneal cavity is not interfered with, that drainage is more direct and efficient, and that there is no abdominal scar to give rise later to ventral hernia. Many surgeons, however, begin the operation by removal of the uterus, and one of the great objections depends upon the possibility of removing a fairly healthy uterus and of afterwards discovering that one set of appendages is still serviceable. A further, still more serious disadvantage is that adhesions, more especially to intestine, are much more difficult to treat by this route and that the repair of a torn viscus is difficult or impossible. The immediate mortality of the vaginal radical operation has not exceeded 5 per cent. in the hands of the best operators, but lacerations and fistulæ, both intestinal and urinary, have been more frequent than when operation is undertaken through the abdomen. Of the abdominal operations removal of the two sets of appendages is the older and has had an extensive trial. The abdominal has, in the first place, the great advantage of enabling us before proceeding to remove any of the organs to make a complete examination and to determine how much it is necessary to do. In many cases the actual condition of the organs is found on opening the abdomen to be decidedly less serious than has appeared from clinical examination, so that it is frequently possible to save one set of appendages. On the other hand, it not infrequently happens that, though signs have been chiefly observed about one set of appendages, the other tube and ovary are so severely damaged as to render their removal advisable. In the next place, adhesions can be separated by the aid of sight as well as of touch, and if intestine, bladder, or ureter is torn the necessary steps for the repair of the injury can be at once undertaken in the most convenient circumstances.

My abdominal operations for suppurative and tuberculous affections include three exploratory incisions with one death, which occurred in a profoundly septic case with perforated pyosalpinx and adhesions so dense that it was impossible to separate them. 36 times the removal of one set of appendages was carried out with one death from septic peritonitis. In 32 cases both sets of appendages were removed with six deaths. In two of the cases the operation was undertaken for tuberculous appendages and was followed by the development of fæcal fistula and death from gradual exhaustion. Of the other four fatal cases, in one the patient was desperately ill with septic peritonitis following the rupture of a pyosalpinx in labour; in a second the woman was wasted and cachectic, apparently as the result of chronic toxæmia; the other two died from septic peritonitis.

In cases of pyosalpinx in the old method of operation a stump of half an inch or so in length of diseased tube was left adherent to the uterine cornu, and from this stump a certain degree of infection was common, giving rise to suppuration of ligatures and consequent sinus formation, or sometimes to fairly extensive and dense peritonitic adhesions. An improvement on this method of treating the pedicle has been made by cutting out the uterine portion of the tube, leaving a wedge-shaped depression that can be easily sutured together. But after the removal of both sets of appendages for suppurative affections the uterus, instead of quietly undergoing atrophy, has often given rise to severe pains and various discharges, so as to render its removal advisable at a later date. In many cases it is found that the uterus is universally adherent, that it is enlarged, and that both cervix and endometrium are in a state of chronic inflammation. Such a condition of affairs is, of course, frequently to be expected since infection usually spreads into the tubes and pelvic peritoneum by way of the uterus. Moreover, it has yet to be proved that the possession of a uterus devoid of appendages, especially when that uterus is more or less diseased, is an advantage to its possessor. The suggestion has been made, based on no evidence, that by leaving the uterus the symptoms of the menopause are modified, and that possibly the uterus provides an internal secretion in the same way as the ovaries are supposed to do. The question of the correct operative treatment of severe affections of both sets of appendages is still unsettled, but the above considerations have induced many surgeons, myself among the number, to undertake the removal of the uterus along with the appendages in cases where these are found to be hopelessly disorganised.

Among my own operations to the end of 1906 are included 53 of the abdominal radical operation for ordinary suppurating affections of the appendages and three for tuberculous disease; five deaths followed—a mortality of nearly 9 per cent. Of the three tuberculous cases the uterus was affected simultaneously with the tubes in two; in the third the tuberculous tubes and left ovary were removed through an anterior vaginal incision, and six years later the tuberculous uterus and right ovary were removed by the abdominal route. The methods of operation employed include supravaginal as well as total abdominal hysterectomy. The supravaginal method was employed in 15 cases, with three deaths. One of the fatal cases occurred in an alcoholic patient; a second in a fat woman with a fibroid weighing three and three-quarter pounds, complicated by a pyosalpinx containing four or five ounces of thick yellow pus; the pyosalpinx had caused constriction of the ureter one and a half inches above the bladder and consequent hydronephrosis. In the third case the patient was ill, dusky, and emaciated, and died from general peritonitis. In the remaining 41 cases the complete operation was done, the cervix being removed along with the rest of the uterus and appendages. Two deaths have followed the operation, a mortality for this method of rather less than 5 per cent. One of the fatal cases occurred in a feeble, emaciated, and cachectic woman, aged 33 years, who had been seized with an acute attack of septic peritonitis three weeks before the operation; the only labour had taken place 12½ years before, and there had been no previous severe attack, though the woman had never been well; death from suppurative peritonitis occurred six days after the operation. The other death occurred in a woman aged 54 years, whose only pregnancy occurred at the age of 23 years; 31 years later abdominal pains began and a tumour was discovered two months before operation; the patient had been wasting for a year. On admission she was desperately ill, with furred tongue, foul breath, pulse 136, and signs of cardiac dilatation. Death occurred nine hours after the removal of a fibroid uterus, together with a large suppurating ovary densely adherent in the pelvis.

The total abdominal operation is in most cases not much more difficult to perform than the supravaginal and presents two great advantages. In the first place a frequent source of subsequent trouble is removed; the blood-supply of the cervical stump is very apt to be interfered with to some extent in the supravaginal method, and the consequent interference with nutrition leads sometimes to a certain amount of necrosis and often permits infection of the cut surfaces and pus formation. In the second place the removal of the cervix permits free drainage to be provided into the vagina where this is considered desirable. On the other hand, the removal of the cervix has no corresponding disadvantages; the only argument for its retention is that it forms part of the pelvic floor, but experience has shown that the pelvic floor is not a whit less capable of supporting the superincumbent viscera after it has been deprived of the cervix.

FOURTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.—This congress will be held in Berlin from Sept. 23rd to 29th, under the patronage of Her Majesty the Kaiserin. In order to provide for the entertainment of the numerous ladies, both German and foreign, who are expected to accompany to Berlin the gentlemen who will be engaged in the scientific work of the congress, a ladies' committee has lately been formed under the honorary presidency of H.H. Princess von Bülow, Countess Posadowsky-Wehner, Lady von Studt, and the Lady Mayoress Kirschner of Berlin. Ladies of the committee propose to accompany the visitors to inspect the various establishments for the public welfare, the art galleries, and other interesting sights. Privy Councillor Dr. Eilsberger, president of the local committee of the congress, will act as secretary to the ladies' committee. The address of the secretary-general of the Congress is Eichhornstrasse, 9, Berlin.

The Harben Lectures

ON

EXPERIMENTAL RESEARCHES ON SPECIFIC THERAPEUTICS.

Delivered at 20, Hanover-square, London, under the auspices of the Royal Institute of Public Health,

BY PROFESSOR PAUL EHRLICH, M.D.,

DIRECTOR OF THE KÖNIGLICHES INSTITUT FÜR EXPERIMENTELLE THERAPIE, FRANKFORT.

LECTURE II.[1]

Delivered on June 10th.

ATREPSY.

GENTLEMEN,—I will give you an example from my researches which will make it clear what I mean by atrepsy, and I will take a fairly simple case—viz., that of the cobra venom. This poison produces in the body a number of very different injuries—e.g., it affects the nervous centres, the subcutaneous tissue, the red blood corpuscles, and the endothelia; each separate and individual effect is the result of a different individual poison. Thus one can prove with absolute certainty that the effect on the nervous tissues is produced by the neurotoxin, that on the blood corpuscles by a hæmolysine, and the inflammatory changes by a special endotheliotoxin. It has been shown that those components of snake venom which attack the red blood corpuscles are present in such a form that by themselves they do not suffice to destroy them.

By following the researches of Flexner and Calmette my former assistant and friend Dr. Kyes has succeeded in throwing some light on these difficult subjects. He proved that the hæmolytic component of the cobra venom is an amboceptor, which, however, differs from the bacteriolytic and opsonic amboceptors by combining not with the complements of the blood but which enters into union with a chemically well-defined substance—lecithin. By shaking cobra venom solutions with a solution of lecithin in chloroform one can show the whole hæmolytic toxin to pass quantitatively into the chloroform part, whilst the watery part has retained the whole of the true poisonous principle—viz., of the neurotoxin. From the chloroform solution one can isolate the active hæmolytic principle by precipitating with ether; it can thus be obtained in the form of a white powder, which in chemical analysis gives figures almost exactly fitting to the formula of a mono-stearyl-lecithin. In this process there has therefore been split off one of the two molecules of fatty acid which can be regained quantitatively from the ether. The substance thus obtained is produced by the union of a small quantity of the hæmolytically active part of cobra venom with a relatively large number of lecithin molecules. It is easy to prove that we really have before us here a chemical compound, and not the result of an adsorption similar to that recently described by Michælis between rennet and mastix, for it is impossible to split up the substance by solvents into two components—namely, mono-stearyl-lecithin and the cobra venom amboceptor, and that should be possible if it were only such a mixture. On the other hand, in conformity with its altered chemical character, the substance has obtained new properties not found in cobra venom. For in the first place it is distinguished from the cobra amboceptor by having become so completely thermostable that solutions of this cobra-lecithide can be boiled for hours without losing a fraction of their efficiency, whilst in similar circumstances the original venom would be rapidly destroyed. A further important property is shown by the fact that cobra-lecithide, even in small quantity, instantaneously and without any incubation, dissolves the erythrocytes, whilst snake venom, even in the presence of lecithin, only produces a similar effect after several hours. The long incubation observed in experiments with the native poison is explained by the fact that the real poisonous body has first to be formed by a synthetic process which in dilute solutions and at ordinary temperatures may naturally require some time for its completion.

Research work has shown that the hæmolytic amboceptors of snake poisons possess different affinities for lecithin. We may conclude that the firmness of union of lecithin in the different blood species is different, being highest in the sheep and the ox, lower in the rabbit, still lower in man, and lowest of all in the guinea-pig. You see here very clearly one of the conditions which are of importance for the definition of atrepsy—namely, that of independence. Lecithin has an affinity for certain constituents of the cell and it also has an affinity for the constituents of the poison; the difference between these two affinities decides whether cobra-lecithin can be formed and hæmolysis can thus be produced. If the affinity of the constituents of the stromata is higher hæmolysis does not take place—i.e., the lecithin is not at the disposal of the cobra-amboceptor.

The atreptic immunity, which results as I stated from certain substances not being at the disposal of the parasites, seems to me to play an important rôle in the study of tumours. I may even say that I first formed the idea of atrepsy as the result of numerous experimental observations upon malignant mice tumours which are of cardinal interest for modern cancer research. I believe that a number of clinical and experimental facts in this sphere of knowledge can only be explained by this hypothesis.

As you know, mice cancers are tumours showing a far-reaching analogy to human cancer, and it would therefore appear most justifiable to regard the experiences gained with them as the solid foundation of an experimental study of the tumour. Besides several analogies, however, the mice tumours show certain special features, chief among which is their mode of formation of metastases. It is most remarkable that the highly virulent carcinomata which have been cultivated in numerous generations very rarely show macroscopically visible metastases, whilst the slowly growing spontaneous tumours relatively more often, though also not very commonly, form large secondary nodules in the lungs. Our interest in this peculiar behaviour must even be increased, since Haaland has shown that microscopical metastases are by no means uncommon, but that they almost always remain below the limit of macroscopical visibility. I endeavoured to solve this problem by making, so to speak, artificial metastases—viz., studying in animals affected with an inoculated tumour the result of a second inoculation. I found the interesting fact, that the effect of the second inoculation was inversely proportional to the energy of growth of the primary tumour. In rapidly growing sarcomata and carcinomata the second inoculation almost always had a negative result; at best, the second tumour remained far inferior in size to the primary one. Only in the very slowly growing chondromata there was no distinct difference in their energy of proliferation. These results agree with the following observation which has been confirmed thousands of times: If, as is regularly done in my institute, the inoculation is carried out by introducing the capillary at the groin and pushing it up as far as the axilla, the greater quantity of inoculated material is deposited at the latter site, whilst only little of it remains at the groin. In the case of the rapidly growing carcinomata and sarcomata the large principal tumours almost always develop in the axilla, whilst a minute nodule is usually found in the groin. In the case of the chrondromata, however, both tumours usually show a fairly equal development. Thus in the latter case the macroscopical appearance somewhat resembles that of an hour-glass, whilst in the former it is more like a balloon with its car attached to it. To my mind, the explanation of this phenomenon is as follows: every proliferation depends in the first place on the avidity of the cells for the nutritive substances. Normally there are certain well-defined laws of distribution, which guarantee the normal working of the organic functions. The avidity of the tumour cells is increased compared with that of the body cells. The more energetically a tumour proliferates, the more vehemently does it attract the nutrient substances from the blood. In the case of a rapidly growing tumour it may therefore very easily occur that for such cells which are under very unfavourable conditions of nutrition—e.g., cells inoculated and metastatically carried away—there is an insufficient supply of nutrient substances, and that they therefore either perish from atrepsy or at least are unfavourably influenced in their growth. From this point of view it is

[1] Lecture I. was published in THE LANCET of June 15th, 1907, p. 1634.

also quite evident that slowly growing tumours can attain far greater dimensions than rapidly growing ones, since in the former the consumption of nutrient matter, in spite of their size, is less than in the latter, and thus the entire organism is injured to a lesser extent.

I fail to understand how von Dungern can think himself justified in doubting the correctness of my explanation on the ground that hitherto the experimental proof of a permanent increase of cellular avidity by increased nutrition has not been adduced. I have never asserted that we can, by artificial means, permanently raise the cellular avidity. Such a power would obviously involve the possibility of artificial tumour production. There is, therefore, no contradiction—as von Dungern imagines—between my views and the facts that by artificial hyperæmia better nutrition is obtained and that after removal of large parts of the body—e.g., amputation of the thigh—the hypernutrition of the individual is evidenced not by the proliferation of functionating epithelium cells but by increase of the paniculus adiposus. From the fact that the increased avidity causes an increased attraction of nutritive material it does not follow inversely that copious nutrition should increase the avidity. An indirectly injurious effect of more highly avid cells on less avid ones can only then become evident if the body does not possess sufficient nutrient matter to saturate every avidity. What is the origin of the higher avidity of the tumour cells is quite unknown to us, for this question means neither more nor less than the last problem of tumour etiology.

An entirely different significance must be ascribed to the specific growth-producing bodies, for the existence of which we have received irrefutable proof chiefly by the work of Starling. As you may know he observed lactation in non-pregnant females as the result of injecting emulsions of embryones. But, of course, I should never think of asserting, as one might be led to think by von Dungern's explanation of my views, that by hypernutrition a virgin might become a wet-nurse. The specific growth-producing bodies play an important rôle cell in other cases and are intimately connected with atreptic immunity. Thus we know that the influenza bacillus cannot do without hæmoglobin for its growth; therefore it is quite easy to cultivate the bacillus directly from the sputum, which almost always contains small quantities of hæmoglobin. But if we do not artificially add hæmoglobin to the subcultures the bacteria very soon die in them. Specific auxiliary growth-substances we must also admit in all those infectious diseases which are characterised by a marked localisation of the poison—even in syphilis.

The case is quite similar in that form of atreptic immunity which follows from my experiments of inoculating rats with mice tumour cells. As you know, hitherto no one has ever succeeded in transferring normal or tumour tissue to animals of a different species. The limits of transplantability coincide with those of bastardisation. The question, however, now arose as to whether the same barriers held good also for our highly virulent tumour material. To that end I employed the rat as the animal phylogenetically most nearly related to the mouse. In fact, if a virulent mouse tumour is inoculated to a rat the result is quite different from all hitherto known true cases of transference of tissue outside a species. For during the first eight days the cells both of carcinomata, sarcomata, and chondromata proliferate in the rat just as in the mouse. During this time tumours arise of the size of an almond to a date, containing numerous mitoses and even microscopically differing in no way from the mouse tumours. After that time, however, the limit of their growth is reached and there now follows gradual resorption, which is concluded after another week or two. If the tumour at its maximum development is transferred to another rat it does not gain any foothold there, whilst if it is re-inoculated to a mouse it again proliferates luxuriantly. It is possible to keep on carrying out this zig-zag inoculation mouse–rat—mouse–rat for any length of time without the slightest check to the energy of proliferation being encountered. The question now arises how it is possible to explain on the basis of these facts the immunity of the rat towards mice tumour cells.

We can *a limine* exclude the existence of a natural immunity by antibodies in the rat, in view of the at first luxuriant proliferation of the tumour. On the other hand, it would be possible to imagine that the resorption of the tumour might be the result of an active immunisation of the rat. That such immunisation ultimately occurs may be proved by the fact that the result of re-inoculating a rat in which a first tumour has been absorbed with a second tumour is always negative. I do not, however, consider it permissible to identify these two manifestations of immunity. For, in the first place, it is highly improbable that during the period of rapid proliferation of the tumour in the rat's organism any considerable absorption of tissue elements should occur. Further, previously to that period a production of antibodies has not been proved. Lastly, since the tumour when re-inoculated to the mouse never shows ever so slight an injury one would have to suppose—with von Dungern—that the anti-substance formed in the rat's organism was activated only by the complements of rats but not of mice. This again has up till now not been proved. A far simpler and more natural explanation of all these phenomena is afforded by my hypothesis of atrepsy. According to this, the mice cells require for their growth not only the ordinary nutritive substances which the rat can also supply to them in ample quantity, but, besides that, some well-defined substance which is present only in the mouse's organism. In the rat then these cells would only be able to go on growing so long as there still remains to them some of the specific growth substance that was introduced with them at the time of inoculation. When it has all been used up growth can only be further stimulated by giving a fresh supply of this substance—e.g., by re-inoculation to the mouse.

Time and again I have laid stress upon the fact that many nutrient substances are not present in the cells in a free state, and that therefore they are not at the disposal of any invader, but that always a struggle is necessary before they can be rendered accessible. In the case of snake venom I have shown that we are dealing with a simple difference between two chemical avidities. In the case of bacteria the affair may be rather more complicated according to the occurrence of either of two possibilities—viz., (1) a direct assimilation in consequence of a higher degree of affinity; or (2) an indirect action by injury to the cell. Supposing, for example, that a microbe had penetrated into a cell but had not the power of directly splitting off the fatty bodies; then these substances would not be immediately assimilable by it. Yet it would be able to obtain their possession, if it secreted a poison injurious to the cell, which would decompose the protoplasm. In such a case the fat would be liberated and could be assimilated by the micro-organism although the immediate affinity between the two may be a very low one. At any rate, these considerations might in so far be of interest as they touch upon an issue of biology and pathology, which has on the whole been somewhat pushed into the background of late years, since one has accustomed oneself in every infective process to think in the first place of a specific bactericidal action through the direct toxic substances of the body, its haptines, &c. This has led to our neglecting somewhat the simple possibility that certain micro-organisms may only be able to grow if certain conditions are given for their development and needs must perish if these conditions are not fulfilled. To my mind, this possibility can be important in many respects and is especially significant for our views on cancer immunity. At any rate, we are dealing in these questions with a highly complex field in which many possibilities are present, the most important being this difference of avidities.

It has been shown that the trypanosomes may alter their avidity for arsenic and thus acquire an apparent immunity. The contrary may occur in the case where the substance in question is not a poison but a nutritive body. Here we should be perfectly justified in supposing the avidity of the receptor to have become increased. The same thing may take place with micro-organisms which can physiologically diminish or increase their avidities. Thus in all these cases the struggle lies between the adaptability of the parasite and that of the host. The one whose adaptability in the last place is highest will remain victor. Of course this struggle is to a great extent influenced by indirect actions consisting in the secretion by each antagonist of dissolved substances hostile to the vitality and receptivity of the organism. On the part of the bacteria these substances are the toxins and the dissolved intracellular substances, on the part of the body the anti-substances.

A further rôle is played by actions of a protective and defensive nature. Thus we have shown that bacteria congregate in those parts where they find the most favourable conditions of nutrition, whilst the organism both by its

phagocytes and by the means of encystment endeavours to make the pathogenic germs harmless and to eliminate them. You see, therefore, that this is a war waged in different fields, but in which to every action there corresponds a reaction. This war is waged in a three-fold manner by variations of affinity, by variations in the poison, and by localisation.

TWO CASES OF INTERMITTENT HYDRONEPHROSIS TREATED BY OPERATION.

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THE following cases may be of interest as examples of excellent results after operation for intermittent hydronephrosis and as showing a modification in the method of dealing with the upper end of the ureter in some of these cases which is certainly an improvement over what I myself had done in previous similar instances.

CASE 1.—The patient, a married woman, aged 32 years, was admitted to King's College Hospital on Nov. 11th, 1905. She did not give a clear account of her trouble but what she told us practically amounted to this: For the last ten years she had suffered from time to time from attacks of pain in the left loin which had become more frequent of late and were practically continuous for the three weeks preceding admission. Of late she had also had occasional slight pain in the right loin. In these attacks the severity of the pain did not as a rule last longer than 20 minutes and it was accompanied by giddiness and nausea but not by vomiting. The pain was limited to the left loin and did not extend downwards. She had not noticed any variation in the amount of urine passed in connexion with the attacks nor had there ever been any blood in it. On examination both kidneys were freely moveable and somewhat large but they did not appear otherwise abnormal. A skiagram showed no stone. The urine was normal. Consideration of all the points led me to the conclusion that the case was one of intermittent hydronephrosis due either to kinking of the ureter from the mobility of the kidney or to some abnormality about the renal end of the ureter and therefore the following operation was performed on Nov. 17th, 1905.

Operation.—The left kidney was exposed in the loin and brought out through the wound. The kidney was enlarged and there were two cysts on its surface. The pelvis was greatly dilated and was almost as large as the kidney itself; the ureter was about the size of a No. 8 catheter and came off from near the upper end of the dilated pelvis. The result was the production of the valvular condition of the orifice of the ureter which seems to be the commonest cause of intermittent hydronephrosis. An incision was now made into the pelvis of the kidney about half an inch to one side of the ureter and extending upwards around it, and the state of the interior of the pelvis was investigated. It was then found that we had to do with the condition where the opening of the pelvis is placed high up and apparently closes from pressure as the pelvis fills with urine. I then slit the orifice of the ureter and the wall of the pelvis downwards as far as I could without going beyond the connexion between the two. The result did not, however, seem to be satisfactory, and I did not feel at all sure that when healing had taken place the trouble would not be reproduced. I therefore continued the incision in the pelvis of the kidney around the attachment of the ureter and about half an inch from it, or rather more at the upper part and less at the lower. The result was that an oval piece of the pelvis was detached, towards the lower part of which was the orifice of the ureter which had been enlarged by a vertical slit. Two or three fine catgut stitches were then inserted between the edges of the divided ureter and the pelvis, special care being taken as regards the lower angle. A piece of the lower part of the pelvis was now cut away and the oval portion was inserted into this opening by a series of catgut stitches avoiding the mucous membrane. A few additional Lembert's sutures were applied outside. Some of the redundant pelvis at the upper part was cut away and the edges being inverted the pelvis was closed by catgut sutures. The result was that the orifice of the ureter was attached to the lower end of the pelvis of the kidney, that its opening was enlarged and no longer valvular, and that there was a direct flow of urine from the pelvis into the ureter. The kidney was now returned and fixed in the loin in the usual manner and the wound was closed, a drainage-tube being inserted down to the pelvis.

The after progress of the case was uneventful. There was no escape of urine by the tube, which was removed on the third day, and the wound healed by first intention. There was a little blood in the urine for two or three days. The patient was discharged from the hospital on Dec. 30th, 1905, quite well.

CASE 2.—The patient, a man, aged 20 years, a gardener, was admitted on Nov. 11th, 1905. For the last three years he had been subject to attacks of severe pain in the left loin. These attacks had lately become much more frequent and he had had seven during the last two months. Each attack lasted about three days and after a few hours the pain became very severe and was accompanied by vomiting. During the attacks the patient passed but little urine, though afterwards a great quantity was voided. The urine had never contained any blood. The patient knew of no cause for the attacks; jolting did not cause pain nor increase it if it was present. There was no constipation. Neither kidney could be felt. The urine was of specific gravity 1030, acid, and contained no albumin or sugar. On Nov. 12th the patient had had a severe attack of pain in the left loin during the night. He vomited frequently and had to have morphine. The pain was limited to the back and loin and did not radiate down the thigh or towards the testicle. There was marked tenderness in this region. There was a great desire to pass urine but no frequency of micturition. The attack lasted about 12 hours and during that time 18 ounces of urine were passed; it was of specific gravity 1028 and showed an excess of phosphates but was otherwise normal (no note was taken as to the quantity of urine after the attack). There were some rigidity and fulness in the loin but the part was so tender and rigid that it could not be examined thoroughly.

Operation was performed on Dec. 6th. A similar state of matters was found to that described in the former case. The kidney was enlarged, the pelvis was much dilated, and the ureter came off from the upper part of the dilated pelvis. The same procedure was adopted.

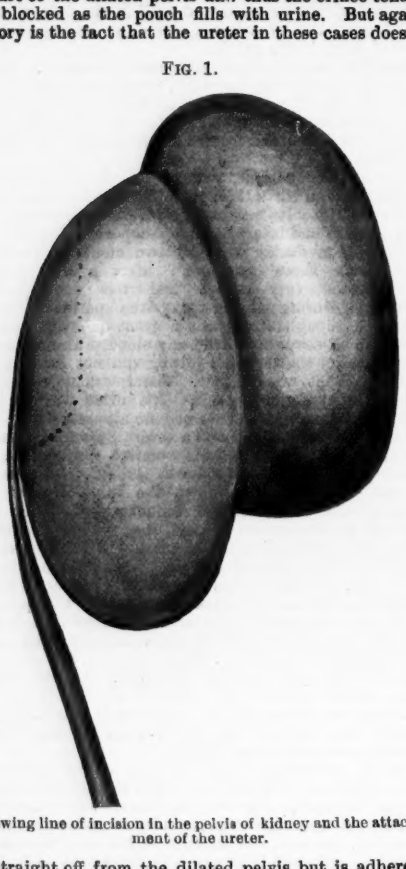
After the operation the patient had a good deal of sickness, lasting two or three days. The wound went on well, no urine escaped, the drainage-tube was removed on Dec. 18th, and healing was practically complete by the 26th. On that day, however, the patients in the ward were a good deal excited by the Christmas festivities, and this patient especially was sitting up and twisting about and very active. During one of his sudden movements he felt severe pain in his left side and next day he was tender there and there was some fulness. The temperature went up and during the next four days ranged from 100° to 103° F. and a distinct swelling formed. On Jan. 1st, 1906, an incision was made through the scar and a quantity of turbid urine was evacuated. The fluid contained 1 per cent. urea and a few staphylococci were found in it. A drainage-tube was inserted and for some days a little urine came through it. By Jan. 18th, however, the flow of urine had ceased and the drainage-tube was left out. He left the hospital well on Feb. 2nd.

It is evident that during the patient's violent movements on Dec. 26th some part of the union between the pelvis and the ureter must have given way and leakage had occurred. The opening must, however, have been very small, for once the accumulation of five days had escaped very little urine came by the tube afterwards.

The condition of intermittent hydronephrosis is due to a variety of conditions but the one which I have most commonly come across is that which was present in the two cases described above—viz., the attachment of the ureter too high up on the pelvis, with the result that a valvular opening is formed which tends to become closed when the pelvis is distended. Whether this condition is congenital or acquired I am not prepared to say. It is conceivable that it may be acquired somewhat in the following manner. In all the cases which I have seen the kidney is freely moveable. As the result of that mobility the ureter may become kinked or so curved from time to time that there is a difficulty in the outflow of the urine. The result is that the pelvis becomes distended and as it yields more at the lower part than elsewhere a pouch

is formed below the attachment of the ureter. This goes on increasing till by-and-by the ureter comes to arise from the upper part of the dilated pelvis and thus the orifice tends to become blocked as the pouch fills with urine. But against this theory is the fact that the ureter in these cases does not

FIG. 1.



Showing line of incision in the pelvis of kidney and the attachment of the ureter.

come straight off from the dilated pelvis but is adherent to the wall of this sac for some little distance (from a quarter to half an inch), so that one may put one blade of a pair of scissors into the ureter and the other into the pelvis and cut

FIG. 2.

The upper end of the ureter and the adjacent portion of the pelvis of the kidney detached. The dotted line shows the incision for enlargement of the orifice.

the intervening wall of pelvis and ureter for a little distance without opening the cellular tissue beyond. This looks much more like a congenital malformation, as it is not easy to see how an organic connexion will form between the walls of the ureter and pelvis as the result of a simple distension of the latter.

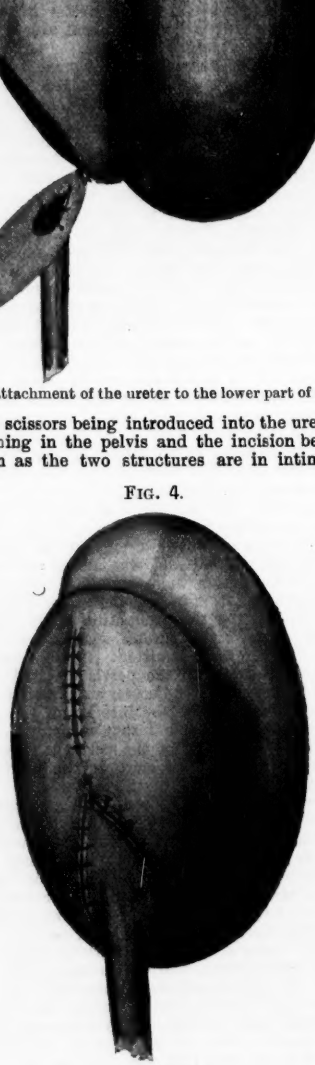
Treatment.—In previous cases of this kind I have contented myself with slitting down the valvular part of the orifice of the ureter from the interior of the pelvis, one blade

FIG. 3.

Method of attachment of the ureter to the lower part of the pelvis.

of a pair of scissors being introduced into the ureter and the other remaining in the pelvis and the incision being carried as far down as the two structures are in intimate union.

FIG. 4.



Final result.

Fine catgut stitches are now inserted between the wall of the ureter and that of the pelvis, especially at the lower angle, so as to keep this new orifice patent.[1] In several cases

[1] See Manual of Surgical Treatment.

the results have been good, but it has never seemed to me to be a perfect way of dealing with the condition. Theoretically it would be much better to detach the ureter completely, cutting the orifice obliquely, and attach it to a separate opening at the lower part of the pelvis. The difficulty in this case is the small size of the ureter and the consequent difficulty of manipulating it and attaching it so that there shall be no leakage at the point of junction with the pelvis. This difficulty is quite done away with by the method employed in the foregoing cases, and which the drawings reproduced will fully explain. By taking a piece of the pelvis along with the ureter we not only get something that we can handle easily but also an oval piece of tissue which can be much more accurately stitched to the new opening of the pelvis with much less danger of leakage. The details of the operation are as follows. An oval piece of the pelvis of the kidney containing the orifice of the ureter is excised, the greater extent of the oval being above the ureter. At the lower part the incision runs about a quarter of an inch below the point where the ureter leaves the pelvis, at the sides it is carried out to about half an inch, and at the upper part rather more. This piece being detached the orifice of the ureter is inspected and one blade of a pair of scissors is introduced into the ureter not quite down to the point where the ureter loses connexion with the pelvis, and the other blade being on the pelvic surface the scissors are closed and in this way a slit-like opening is made and the valvular orifice is got rid of. The wall of the ureter and that of the pelvis along this cut, and more especially at the lower angle, are now united by three or four fine catgut sutures. A piece of the lower part of the dilated pelvis is now cut away corresponding in size and shape to the above, and the ureter is then fastened into this opening by a series of Lembert catgut sutures. If deemed advisable a portion of the dilated pelvis may now be cut away and the opening stitched up in a linear direction. If possible it is well to avoid any connexion between this incision and that in which the ureter is attached as leakage is apt to occur at the angle of union. If such a connexion is made as was the case in the first patient I think it is well to put in a second row of Lembert's sutures at the junction with the oval so as to make it more secure. The kidney is now fixed high up in the usual manner. I think it is well to put a tube down to the kidney for a few days.

Harley-street, W.

AN IMPROVED PREPARATION FOR INTRA-MUSCULAR INJECTIONS OF INSOLUBLE SALTS OF MERCURY IN THE TREATMENT OF SYPHILIS.

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SINCE Scarenzio in 1864 first suggested injections of insoluble salts of mercury in the treatment of syphilis certain obstacles have always existed in connexion with it which have undoubtedly militated against its being universally adopted as the best and by far the most convenient way of treating the disease—i.e., pain at the site of injection, painful nodosities, abscesses, and embolism. Although with the progress of knowledge and improved technique the first (as regards metallic mercury) has been reduced to a minimum, and the last three practically caused to disappear, still that they do exist even now, if to a limited extent, there can be no doubt, and this is the chief cause, and indeed in a great many cases the only one why some of the best known syphilologists of the day hesitate in recommending the intramuscular method before all others in the treatment of syphilis. Fournier, in his "Traité de la Syphilis," says: "Lastly, a weighty argument (which I have already developed in the previous remarks) which condemns the method is that by its inconvenience, and especially by the pain it inflicts on patients, it constitutes the best method for preventing patients continuing treatment." In the early days of treatment by this method the main causes of the difficulties alluded to were undoubtedly due, in the first instance, to the ignorance existing at this epoch as regards the necessity for employing antiseptic precautions in carrying out injections, and, secondly, to the unsuitability of the substances which had to be employed as vehicles for the suspension of mercury in the preparation used for injection purposes. The former has, of course, been long since remedied and pain (at any rate, where metallic mercury is concerned) has, as previously stated, been reduced to a minimum, but the other objection has existed more or less up to this day.

The substances which have been employed to hold the mercury in suspension are as follows: glycerine, gum water, olive oil, vaseline, oil of vaseline, and lanolin. Each of these has had its day, one being introduced from time to time as an improvement on the other, and in some respects they may have succeeded in this. Personally, I could never get away from one objection which was common to all—"being insoluble in the organism they entered the circulation as foreign bodies, and as such might possibly have produced nodosities, abscesses, and embolism." This, of course, is a most grave objection and has always been a source of anxiety to me; however, perhaps I ought not to grumble at the substances (lanolin and liquid paraffin) which I have been in the habit of using, as I have personally never seen any of these accidents follow their use; at the same time, there can be little doubt but that some of those grave accidents which have been recorded in connexion with intra-muscular injections of mercury must be put down to the use of these insoluble substances. Besides this main objection some of the above have others which are much against them. Glycerine and gum water are very irritating and painful, whilst olive oil, vaseline, and oil of vaseline are apt to go rancid. Some 18 months ago, in discussing this matter with M. Duret, a well-known French chemist, he suggested *palmitin* as a substitute for any of the above substances as a vehicle. Palmitin is a neutral fat derived from palm oil, having the same chemical composition as the palmitin of the human system. It is an ether glyceride of palmitic acid, it is therefore easily saponified in the fluids of the organism, being converted into a soluble alkaline palmitate and glycerine; thus it enters the circulation not as a foreign body like all substances hitherto used as vehicles. For close on 18 months I have been experimenting with palmitin as a vehicle and have practically adopted it as such at the military hospital, Rochester-row, and with the greatest success.

It is unnecessary for me to point out the preponderance of the advantages which I claim for palmitin over all other known substances as vehicles for the suspension of mercury in any form: (1) it is non-irritant and non-toxic; (2) is not so easily oxidised as the other components of human fat; (3)[1] being already a normal constituent of the human organism, easily saponified and soluble therein, it *does not* enter the circulation as a foreign body; (4) as a vehicle it makes a more homogeneous preparation for injection purposes than any other; and (5) its melting point can be raised and lowered with the greatest facility. I may here state that pure palmitin (which is the only preparation used) is a snowy white flocculent powder and great care is necessary to get it *pure*.

Analgesia.—The question of pain, although (so far as metallic mercury is concerned) this has been reduced to a minimum, still there is no doubt that it constitutes a grave objection in the practice of intramuscular injections, especially when calomel has to be employed. With a view, if possible, to abolish pain altogether after injections various substances have from time to time been introduced into the mercurial preparations used for that purpose—i.e., morphine, cocaine, beta-eucaine, &c.; these acting as they do almost at once will assuage any pain which may follow immediately after inoculation, but unfortunately this is not the kind of trouble we have, as a rule, to deal with, as the pain which bothers us is one which comes on two or three days after the injection, when the above local anæsthetics are fruitless. This is a very serious matter in any case, but especially as regards injections of calomel, for it is here that pain is most marked and severe; the consequence is that being hitherto unable to cope with it we have been forced more or less to abandon injections of calomel as anything like a routine method of treating syphilis and have only employed it under exceptional circumstances when pain was of no consideration. Hence was lost to us our keenest weapon for

[1] Palmitin. In Stirling's work on "Physiology," p. 29, it is stated that neutral fats of adipose tissues of the body generally consist of a mixture of stearin, palmitin, and olein. Professor W. D. Halliburton in "Essentials of Chemical Physiology," p. 15, states that the fat cells are composed of three different fats called palmitin, stearin, and olein. Charles's "Physiology and Pathology," p. 84, says, "Palmitin is more abundant than stearin in human fats and is the chief component of most animal fats."

dealing with syphilis. It has always been my endeavour to overcome this drawback.

Being cognisant of the analgesic powers of creasote it struck me that some combination between it and camphor might possibly meet with success. With this in view I consulted Messrs. Oppenheimer and Co., who informed me that they manufactured *absolute creasote* from the ordinary product which is obtained from beechwood; that there is a very great difference between what is known as guaiacol and this purified creasote, the former constituting only about 20 per cent. of the bulk of beechwood creasote. The purified creasote is an intimate chemical substance consisting roughly of 20 per cent. of guaiacol, 40 per cent. of creasote, and 40 per cent. of monatomic phenyl; it is methyl-catechol and has the empirical formula of $C_6N_4C_{10}H_{18}$; it possesses double the bactericidal effects of pure carbolic acid when tested by the Rideal-Walker process. With this substance, in combination with camphoric acid, I have been experimenting for some little time now, and I may say at once that it has proved a thorough success as an analgesic in not only combating any pain which may immediately follow on an injection, but, what is much more to the point, it apparently succeeds admirably in preventing the occurrence of that after-pain which comes on on the second or third day, especially after calomel.

The abolition of pain after injections, I need not point out, is of the very greatest, if not of vital, importance to us syphilologists, not so much as regards metallic mercury (which never caused much), but in the case of calomel it is of prime interest. Syphilologists the world over have long considered calomel to be the most potent salt of mercury in its power over syphilis in all its stages, its action in this respect being truly remarkable; it is more active and energetic than any known salt of mercury, acting promptly when called upon in acute cases, whilst clearing up old-standing ones which may have resisted and baffled all other treatment. Nevertheless, in spite of all this, calomel has been limited to the treatment of certain cases and the idea of employing it in anything like a systematic manner has been more or less generally abandoned owing to one great drawback—i.e., the intense pain which was liable to follow its use as an injection, this latter usually coming on about the second or third day after inoculation and lasting with more or less severity for three or four days. As regards this pain, Fournier gives statistics collected by himself and Portalier of 473 cases of syphilis treated by injections of calomel; in 36 per cent. pain was slight, in 35 per cent. it was moderate, in 29 per cent. it was acute, and in 3 per cent. it was intolerable. This estimate coincides with my own experience and rather understates the actual amount of pain than otherwise. I have seen so many cases when this has been almost intolerable that as years went on I approached the giving of intramuscular injections by calomel with more or less dread and only employed them when absolutely obliged to from the nature of the case. Since I began to use this substance, absolute creasote and camphor, as an analgesic I have been giving intramuscular injections of calomel with impunity—in fact, during the last few months at the Military Hospital, Rochester-row, I have to a certain extent modified my method of treating syphilis, for, whereas previously patients undergoing injection treatment were put first on metallic mercury, latterly to begin with they are put on weekly injections of calomel; this rapidly causes the disappearance of signs and symptoms and then they are put on intramuscular injections of metallic mercury.

With reference to this latter it may be well to remark here a fact which has been long since noticed by myself as well as by others—i.e., that although the action of calomel on syphilis is so markedly energetic and rapid it is short-lived when compared with that of metallic mercury, hence the necessity of reverting to the latter at an early date. This combination between pure creasote and camphor possesses other advantages besides its analgesic powers—i.e., it is in the first place non-toxic (which cannot be entirely said of other suggested local anæsthetics) and is strongly antiseptic, being twice as much so as pure carbolic acid; besides which, being a viscous body, it lends valuable aid to the palmitin in making up a vehicle which will hold metallic mercury or calomel in suspension—in fact, the combination goes to form a most homogeneous preparation, much better in this respect than any I have ever seen before; its consistence at a melting point of 37° Centigrade (which is what I am at present using) could hardly be improved upon.

The following are the formulæ for the two mercurial creams:—

Hydrargyrum		10 grammes.
Equal parts of absolute creasote and camphoric acid	Creo-Camph	20 c.c.
Palmitin basis to		100 c.c.

10 m. of above contains one grain of mercury.

Calomel		5 grammes.
Equal parts of absolute creasote and camphoric acid	Creo-Camph	20 c.c.
Palmitin basis to		100 c.c.

10 m. contains ½ grain of calomel.
Melting point 37° Centigrade.

Lieutenant-Colonel W. B. Leishman, R.A.M.C., has examined both of the above creams and found "both sterile and that bacteria would not grow in either."

Creo-Camph (otherwise camphorated creasote) is absolute creasote in combination with camphoric acid and is isolated as such from creasote obtained from beechwood by fractional distillation as methyl-catechol. As before stated, both these preparations form cream of almost perfect consistence and homogeneity. Both the metallic mercury and calomel are triturated with the other constituents by a special process which has been highly developed by Messrs. Oppenheimer. Both are very finely divided. Messrs. Oppenheimer, to prevent any chance of over-dosing, supply these creams in aseptules, each graduated to hold a maximum dose of 15 minims.

To sum up, I would briefly remark that, in my opinion, the substitution of palmitin, which is a soluble constituent of the organism, as a vehicle for the suspension of mercury in place of the insoluble substances hitherto in use, and the success which has followed the adoption of camphorated creasote as an analgesic begin a new era in the treatment of syphilis by intramuscular injections of insoluble salts of mercury; for, in the first instance, one great objection to the treatment—i.e., the introduction of insoluble foreign bodies into the circulation—is done away with, and in the second, pain has been practically abolished even in the case of calomel. It is needless for me to point out what abolition of pain means to most patients, be it ever so slight, but in this case it means much more from the surgeon's point of view, in that it places at his disposal the best and most energetic mode of dealing with syphilis without let or hindrance—i.e., injections of calomel.

SEPARATION OF THE ACETABULAR EPIPHYSIS OF THE FEMUR: ITS RELATION TO ADOLESCENT COXA VARA.

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SEPARATION of the acetabular epiphysis of the femur, a condition formerly regarded as extremely rare, is now recognised as of not infrequent occurrence. The separation is usually diagnosed after some comparatively trivial injury to the hip-joint which leads to a skiagraph being taken. The importance of this separation in the etiology of adolescent coxa vara is also appreciated and the view has gradually been adopted that all cases of adolescent coxa vara have had a previous separation of the epiphysis. The following case, which was demonstrated at the clinical evening of the Medical Society of London on Feb. 11th last, is, so far as we have been able to ascertain, unique in that the boy presents a condition of recent separation of the right acetabular epiphysis without any knowledge that there is anything wrong whatsoever with the right hip-joint.

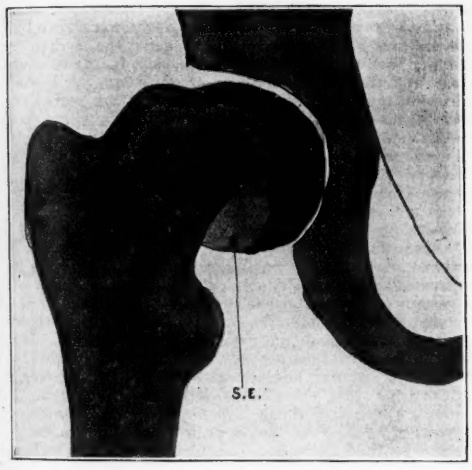
The patient is an epileptic, 19 years of age. On Dec. 23rd, 1906, he had a fit whilst in bed. He did not tumble out of bed but when he woke next morning the left hip was very

painful and he was unable to walk properly. He managed, however, to hobble about. The leg continued to be painful, especially at night, and shortly afterwards he went to the National Hospital and was referred by Dr. F. E. Batten to one of us (P. W. G. S.), who sent him on to St. Thomas's Hospital for admission. This is the history he gave; but on careful inquiry we found that he had fallen out of bed in a fit about a year ago and that some time after he had some feeling that the left hip was not quite right and his friends told him that he limped. He has never had any sensation or pain in the right hip. He has had no illness of importance and shows no evidence of rickets or syphilis.

On examination it was found that the left leg was in a position of adduction, external rotation, and flexion, whilst the right leg was apparently normal. There was half an inch difference in the length of the two legs and the great trochanter was raised half an inch above Nélaton's line on the left side. No movement could be obtained at the hip-joint on the left side but on the right the movements were free, except for slight limitation of flexion and abduction.

A skiagram of the left hip (Fig. 1) shows that the acetabular epiphysis is separated and has rotated on two axes: (1) a horizontal antero-posterior axis; and (2) a vertical axis, so that the separated surface looks forward. The femur is displaced upwards and inwards so that the neck is situated in front of the separated surface of the epiphysis

FIG. 1.



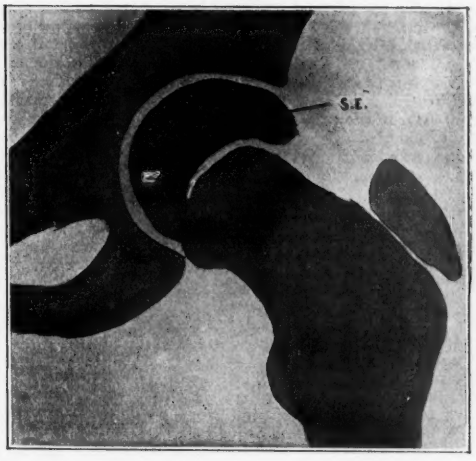
Reproduction of tracing of skiagraph of left hip.

and projects above it. The skiagram of the right hip (Fig. 2) shows an extremely interesting condition. On this side the epiphysis is also separated but has only undergone rotation on the antero-posterior horizontal axis and has rotated upwards instead of downwards. There is no rotation on the vertical axis.

The essential differences between the two sides are these: 1. On the left side the epiphysis has undergone a rotation on its vertical axis. 2. The epiphysis on the right side has rotated upwards on its antero-posterior axis instead of downwards as on the left side, and has undergone no vertical rotation. We believe that the clinical differences on the two sides depend entirely on this vertical rotation and are of opinion that the rotation occurred during the fit, muscular action pressing the neck of the femur against the epiphysis, thus causing rotation of the already separated epiphysis. The upward rotation on the right side is difficult to explain. We must assume that the separation on this side had not existed a sufficient length of time to allow the body weight to cause the downward movement, which apparently has occurred in all other cases. We can find no record or skiagram showing a similar position for the epiphysis.

During the last six years, 1901–06, ten cases with the diagnosis of "separated acetabular epiphysis" have been admitted to St. Thomas's Hospital. They were all males, the average age being 15·9 years, the extreme ages being 14 and 18 years. This patient's age is 19 years, rather older than the average age, but he is very undeveloped and skiagrams of his other epiphyses show that they correspond to those of boys about 14 or 15 years of age. From an examination of the skiagrams and notes of these cases and of 11 cases of coxa vara which present similar appearances we can differentiate two classes of this condition: 1. Where

FIG. 2.



Reproduction of tracing of skiagraph of right hip.

there is only rotation on an horizontal antero-posterior axis 2. Where there is rotation on both an horizontal and on a vertical axis. In the first class the symptoms are slight and there is only slight impairment of mobility. The treatment consists in wrenching under an anæsthetic and immobilising in the abducted position in a suitable apparatus for two or three months and then the use of patten and crutches for a year. The prognosis is excellent and we have seen skiagrams taken after this treatment has been carried out which show no evidence of abnormality whatever. In the second class the symptoms are more severe, and we may say that the greater the vertical rotation the severer the pain and immobility. This boy on his left side shows very great rotation and his pain has been very severe. The pain is due to pressure on the capsule. The treatment is more difficult. An attempt should be made under an anæsthetic to wrench the bones into place, but if not successful the neck must be screwed or nailed to the epiphysis, the femur first being rotated and abducted until the fractured surfaces are in apposition. The prognosis is worse than in the first class.

If a case of separated epiphysis with a history of injury is untreated the deformity known as traumatic coxa vara results. Now the skiagrams of traumatic coxa vara are exactly similar to those of ordinary adolescent coxa vara, and as in the traumatic cases the injuries are always trivial, the view has, as we have already said, gradually developed that these conditions are really one and the same, that is, that all cases of adolescent coxa vara are due to a previous separation of the epiphysis. All will agree that this case would certainly have developed coxa vara on the right, apparently sound, side, and it is consequently the missing link of the chain of evidence connecting these two classes of coxa vara, and we may assume that other cases of coxa vara have presented this condition at some time previous to the development of their deformity.

The average age of 11 male cases of coxa vara admitted at St. Thomas's Hospital from 1901–06 was 16 years, 1⅛th months older than the corresponding cases of separated epiphysis. There were three female cases and their average age was 13·5 years.

The clinical history of cases of coxa vara can be epitomised as follows: (1) slight limping and aching; (2) increased pain, sometimes preceded by slight trauma; and (3) deformity. These stages correspond to the pathological ones of (1) separation of epiphysis without vertical rotation; (2) rotation on vertical axis: and (3) coxa vara. Pain,

more or less severe, commences as soon as rotation occurs. The severity of the pain depends on the rapidity and extent of the rotation. In the case we have just recorded the rotation was very rapid and extensive and the pain correspondingly great. If rotation is very gradual the pain may be very slight and in some cases absent altogether. This explains those cases of adolescent coxa vara where one finds well-marked deformity with no history of pain. The extent of the rotation on the vertical diameter is estimated by the extent of the curve of the lower margin of the faint shadow of the separated surface of the epiphysis as shown in the diagram (Fig. 1, S.E.). The greater the rotation the nearer the arc of a circle this curve becomes, whilst in lesser degrees the curve is elliptical. The amount of antero-posterior curve, or rather deformity, in the neck of the femur depends on the amount of rotation of the separated epiphysis on its vertical axis.

The pathological change, which occurs at the epiphyseal line, is at present quite unknown. The skiagrams show no bony change. The disease apparently only occurs in the poorer classes, and does not appear to be due to any particular occupation. The reason why this condition is only demonstrable at the acetabular epiphysis of the femur is probably explained by the architecture of the joint. The weight of the body is transmitted through the pelvis, and the closely fitting bony cup of the acetabulum causes that pressure to act directly on the epiphysis. No other joint has this conformation and a corresponding pressure to bear.

In conclusion, we would urge the need of immediately skiagraphing all cases of slight limp or aching about the hip-joint in patients between about 12 and 18 years of age in order to detect the condition of separation in its earliest stage, and before the case passes into our second class.

Our best thanks are due to Dr. A. H. Greg of the x ray department of St. Thomas's Hospital for his assistance and for the use of his collection of skiagrams.

THE OPSONIC INDEX AND AGGLUTINATION IN CEREBRO-SPINAL MENINGITIS.

BY ALICE TAYLOR, L.R.C.P. IREL.

THE value of the opsonic index in the diagnosis and treatment of various forms of infections having been demonstrated by Sir A. E. Wright, it was thought probable that it might also prove of service in cases of cerebro-spinal meningitis. The opportunity for such investigation presented itself at the Children's Hospital, Great Ormond-street, London, for in the early months of this year eight cases of cerebro-spinal meningitis were admitted to the hospital. The following table gives shortly the important features of these cases:—

Table of Eight Cases of Cerebro-spinal meningitis.

Case.	Age.	Rash.	Lumbar puncture.	Organism isolated in culture.	Result.
1	13 weeks.	3 crops: (1) petechial; (2) erythematous; (3) elevated spots and face scars.	*	Gram-negative diplococcus.	Death.
2	7 months.	Purpuric.	Turbid.	Ditto.	,,
3	3 months.	Vesicular.	No fluid obtained	No growth.	,,
4	4 years.	Erythema.	Cloudy fluid.	? Few intracellular cocci.	Recovery.
5	2 years, 5 months.	—	Cloudy fluid under pressure.	No growth, very few intracellular diplococci.	,,
6	2 years, 8 months.	—	Cloudy fluid.	Gram-negative diplococcus.	,,
7	2 years, 5 months.	—	,,	1 colony; no further growth.	—
8	1 year, 5 months.	Before admission.	Clear fluid.	Gram-negative diplococcus.	Convalescence.

* At the necropsy hydrocephalus, meningitis of vertex, little of base and sticky exudate on the posterior surface of the cord.

It will be seen that all these cases were proved, either by lumbar puncture or post mortem, to be cases of cerebro-spinal meningitis.

Method of investigation.—The method of investigating the opsonic index was that described by Sir A. E. Wright. The emulsion throughout was made from a culture on blood serum of meningococci isolated from the cerebro-spinal fluid of one or other of the patients. These meningococci were all Gram-negative. The emulsion was used alive. The stain was a strong solution of toluidin blue made up with sodium bicarbonate; this gave satisfactory results. The leucocytes were washed once in a solution of sodium citrate in sodium chloride and after that twice again in sodium chloride 0·9 per cent. The emulsion was also made up with 0·9 per cent. sodium chloride.[1] Considerable difficulty was, however, encountered in dealing with the organisms, for it was found that the older cultures underwent rapid degeneration during incubation. In the later cases in which a seven to ten hours' culture was used this degeneration did not occur and in these cases a very high index has been noted. Degeneration was shown by the swelling and irregular staining of the coccus and subsequently by its disintegration into a granular detritus.

The difficulty of working with an organism which so rapidly undergoes disintegration has also been noted by Davis in America and led to the (provisional) conclusion that the opsonic index was not delicate enough to be of any service in diagnosis or treatment.[2] In the earlier cases, where older cultures were used, the serum of the controls showed a high opsonic power; in the later cases, when a young culture was employed, the opsonic power shown by the controls was extremely small; whereas the serum from cases of meningitis showed enormously increased opsonic power, and the average number of organisms per leucocyte differed as much as 18 to 1·8, the incubation period being eight minutes in this case. The normal opsonic power appears unable to act until, according to Flexner,[3] autolytic enzymes are being set free. The thickness of the emulsion is also an important factor to regulate, for if the emulsion be too thick the number of organisms in the leucocytes with the patient's serum may become uncountable.

Whilst observing the opsonic index it was noted in the later cases that agglutination was a marked feature. This has been observed after an incubation of ten minutes in a dilution of 1 in 3. The controls throughout the whole series never showed any agglutination, nor was it present in slides without serum, where the emulsion was incubated with 1 part each of washed leucocytes and saline solution. It was also tested against tuberculous meningitis and typhoid fever; in neither case was agglutination present. In testing for agglutination alone a thick emulsion is to be preferred. The clumps are then very much larger and are spread along the edges of the smear in the same manner as the leucocytes, and the contrast between the control slide, thickly strewn with pairs and some tetrads of meningococci, and the patient's slide, almost or quite free from loose cocci but with clumps along the edges, is a striking feature.

As a result of these observations the following questions suggest themselves: 1. Is this high index pathognomonic of the disease? 2. Is it present in all forms of meningococcal meningitis? 3. Will it be possible, by the difference in the opsonic index or agglutination associated with it, to distinguish between the various forms of meningococci which have been shown by observers to give slight cultural and staining differences? Some attempt will be made to answer these questions in part, but a complete answer can only be obtained by further and more extensive investigations than it has been possible at present to carry out.

The following charts show the results obtained. Charts 6 and 7, and Chart 4 above Index 2, are marked $\frac{1}{10}$ of the scale of the early charts. In Chart 4 the opsonic index against the tubercle bacillus is also recorded with dotted lines. The presence of agglutination in the opsonic index slide is designated by +.

CASE 1.—The patient was a female, aged 13 weeks, who was taken ill seven days previously. The opsonic index was in the early stages low, becoming higher towards the end of

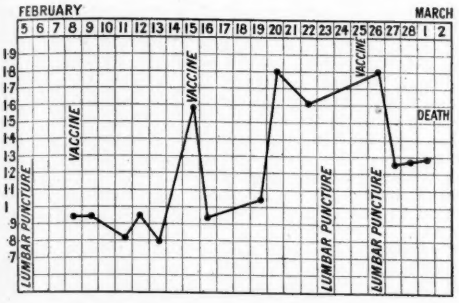
[1] This strength of sodium chloride solution has been used throughout these experiments, for it was found on using emulsions made up with 0·9 per cent. sodium chloride and 1·5 per cent. sodium chloride concurrently, almost exactly the same opsonic index was obtained.

[2] David J. Davis: Studies in Meningococcal Infection, Journal of Infectious Diseases, vol. ii., 1905.

[3] Contributions to the Biology of Diplococcus Intracellularis, by Dr. Simon Flexner, Journal of Experimental Medicine, March 14th, 1907.

the disease. In this case a vaccine was given which may have had some influence on the index.

CHART 1.

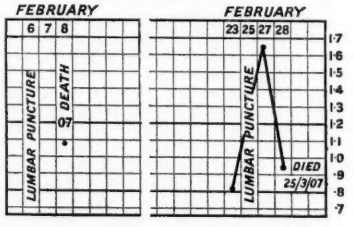


Case 1. Admitted on the seventh day of illness.

CASE 2.—The patient, a male, aged seven months, was taken ill five days previously and died on the eighth day of his illness. The index taken on the day of death was normal.

CASE 3.—The patient, a male, aged three months, was admitted in the third week of his illness. The opsonic index was only taken three times; on the second occasion it was high for the method then used. On examining a slide kept a tendency to form groups can be distinguished.

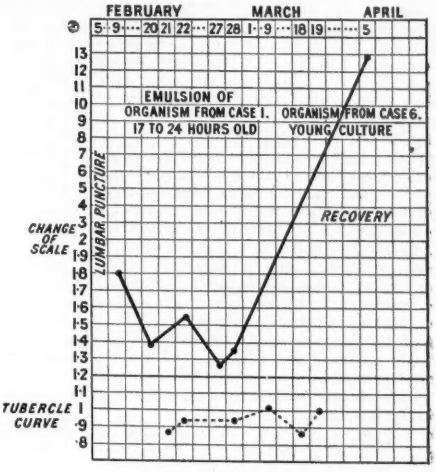
CHARTS 2 AND 3.



Cases 2 and 3. Admitted respectively on the fifth day and third week of illness.

CASE 4.—The patient, a female, aged four years, was admitted on the third day of her illness. The temperature remained continuously high for four weeks. The opsonic index to meningococcus was high on the eighth day of the illness. The opsonic index in this case having been taken by the two modifications used in these observations shows typically the difference in the index resulting from using a young culture. The index on this chart, after reaching 2, is marked $\frac{1}{10}$ of the size. It also shows the tubercle index remaining steady within normal variations.

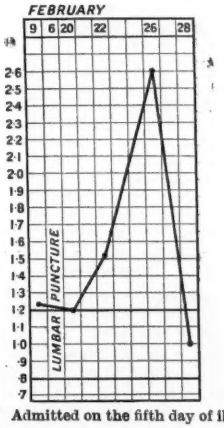
CHART 4.



Case 4. Admitted on the third day of illness.

CASE 5.—The patient, a female, aged two years and five months, was taken ill five days previously. The temperature remained high for six weeks. The opsonic index was at first 1·2 and towards the end of the illness rose considerably.

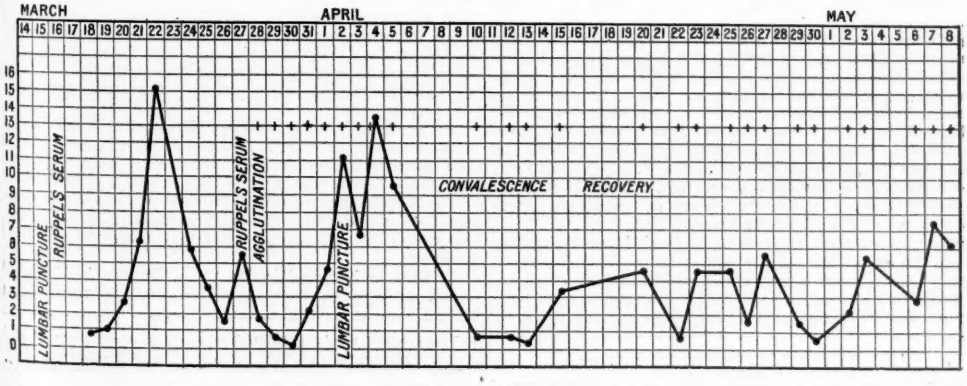
CHART 5.



Case 5. Admitted on the fifth day of illness.

CASE 6.—The patient was a female, aged two years and

CHART 6.



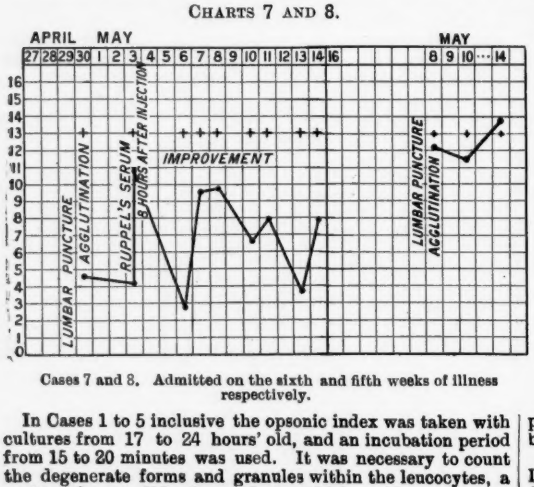
Case 6. Admitted on the fourteenth day of illness.

eight months. The opsonic index was at first low; it rose rapidly and remained high during the whole course of the disease, showing considerable fluctuations. Agglutination was noted first in this case on the twenty-eighth day of the illness and has since been continuously present. Convalescence set in in the sixth week of the illness. This patient was treated with two injections of Ruppel's serum. A considerable rise in the index followed each injection and agglutination was first noted after the second injection; there was at the same time also marked improvement in the general symptoms. On April 9th, the fortieth day of illness, the patient sat up and a week later appeared perfectly well. There was still, three weeks later, marked agglutination and the opsonic index fluctuated somewhat above the normal.

CASE 7.—The patient, a female, aged two years and five months, was admitted in the sixth week of illness. The rash appeared five weeks before and there was head retraction three weeks before; she was very wasted. The opsonic index, taken after admission, was above normal and a marked tendency to agglutination was present. This case had also received one injection of Ruppel's serum; eight hours afterwards the index was two and a half times higher, the temperature became normal, and the general symptoms markedly improved.

CASE 8.—The patient, a female, aged one year and five months, was admitted in the fifth week of her illness. There were rash and head retraction three weeks before. The opsonic index was 12·2 and agglutination was present.

CHARTS 7 AND 8.



Cases 7 and 8. Admitted on the sixth and fifth weeks of illness respectively.

In Cases 1 to 5 inclusive the opsonic index was taken with cultures from 17 to 24 hours' old, and an incubation period from 15 to 20 minutes was used. It was necessary to count the degenerate forms and granules within the leucocytes, a matter of some difficulty, and one which could not be considered altogether satisfactory. In Cases 6, 7, and 8 an emulsion[4] from a young culture from seven to 10 hours old was used. The resulting smears became as easy to count as those of other organisms. Chart 4 shows typically the difference obtained by working with a young culture, for whereas with old cultures an index of from 1·3 to 1·8 was obtained, with a young culture an index of 13 was obtained.

Agglutination associated with the opsonic index was first noted with Case 6, on the twenty-eighth day of the illness, and when the accompanying opsonic index was low. It has been similarly noted by Houston and Rankin in the Belfast epidemic.[5] It was observed first after the second injection of Ruppel's antitoxin serum obtained from a horse immunised by cultures of meningococci rendered pathogenic to mice and guinea-pigs by culture on special media. Agglutination was also observed on taking the opsonic index after admission to hospital in Case 7 in the sixth week of the illness and in Case 8 in the fifth week of the illness.

In the paper already referred to by Davis he states that on testing the agglutination (by the ordinary Widal method) normal serum never showed any agglutination even undiluted. Gordon[6] mentions two difficulties against employing agglutination diagnostically in cerebro-spinal meningitis by Widal's method: (*a*) the impossibility with the meningococcus to make emulsions absolutely free from all aggregations; and (*b*) the delay that occurs before agglutination takes place. By the method in conjunction with the opsonic index these difficulties appear to be overcome: (*a*) aggregations of cocci have sometimes been noticed in the preparatory smear to test the thickness of the emulsion but this has ceased to be heeded, since in every case after incubation in the liquid medium of serum and washed leucocytes the aggregations spontaneously disintegrate and no aggregations are ever found in the slides of the controls or the patients unless agglutination is present; and (*b*) in these observations ten minutes have been the time limit. The dilution of 1 in 3 might be suggested as too low; it has, however, already stood the test of many observations. Dilutions of 1 in 12 and 1 in 36 have so far given no result in ten minutes.

A suggestion has been made that the clumps might be formed in drawing out the smear: (1) they would not in that case be invariably present with an altered opsonic index; (2) they can be observed if one part each of agglutinating serum, an emulsion of the strain of meningococcus causing it, and of saline solution are incubated ten minutes, dropped on to a slide and allowed to dry without being drawn out; and (3) on testing the result of using an obviously over-thick emulsion it was found the micrococci tended to be drawn out in lines round the cells and the edges of the smear. From the limited observations that follow it would appear probable that this agglutination is specific to the strain of meningococcus eliciting it and gains corroboration by the accompanying opsonic index.

Next the agglutination reaction of the serum of Cases 6 and 7 was tested—first, against the organisms isolated from the cerebro-spinal fluid of Cases 2, 6, and 8, and in every case they respectively gave a high opsonic index and interagglutination. Secondly, against two strains of organisms derived from Belfast—Belfast B. from cerebro-spinal fluid; and Belfast M. from blood. In these two striking differences appear: 1. The serum of Cases 6 and 7 against either Belfast organism gives a normal index and no agglutination. 2. With serum of normal blood against Belfast B. a high opsonic power against a young culture is shown, and the average number of organisms per leucocyte in two of the observations, instead of being limited to three, were 18 and 44 respectively, whereas the serum of normal blood against young cultures of Belfast M. showed a very low opsonic power, as noted against the London organisms. And in this case this low opsonic power has not been excited to action by the serum of Cases 6 and 7.[7]

Conclusions.—From the above observations it is now possible in part to answer the questions set forth at the beginning of this paper.

1. Is a high opsonic index pathognomonic of the disease? It appears possible from these eight cases to obtain a definite opsonic index in cerebro-spinal meningitis, either working with an old or a young culture. A high index has been shown to be present in all the cases examined. This index may under certain conditions attain a very high altitude. In Case 4 it is seen that the tubercle index at the same time runs its usual course. Two or three cases of tuberculous meningitis tested during these observations gave within two or three days a tuberculous opsonic index above the normal and did not give a high index to this meningococcus. This high index appears to be due in these cases to the characteristic feature that normal serum has scarcely any opsonic power against a young culture of this organism. It is therefore probable that a high opsonic index is pathognomonic of the disease.

2. Is a high opsonic index diagnostic in all forms of meningococcal meningitis? The results obtained on testing the serum of the present series of cases against the Belfast organisms[8] show that a high index is not always obtained with different strains of growth and that a negative result may occur. So that although a high index indicates the presence of the disease a normal index does not negative its presence.

3. Will it be possible by the difference in the opsonic index or agglutination associated with it to distinguish

[4] The emulsion must not be allowed to stand.

[5] THE LANCET, May 4th, 1907, p. 1213.

[6] Report to the Local Government Board on the Micrococcus of E.C.M., Dr. M. H. Gordon.

[7] Sera since received from Belfast from three cases of chronic cerebro-spinal meningitis severally give a high index and agglutination against Belfast M. Against Belfast B. and the organism from Case 6 these sera give no agglutination and a normal index.

[8] And the Belfast serum against the Belfast and London organisms.

between the various forms of meningococci which have been shown by observers to give slight cultural and staining differences? Among the organisms tested in these observations it appears possible to differentiate three strains or variations of organisms—Belfast B. from Belfast M. and the present London organisms by the high opsonic power against young cultures as constantly demonstrated with normal serum; Belfast M. from Belfast B. by its very low opsonic power against young cultures as constantly demonstrated with normal serum; and Belfast M. from the present strain of London organisms by the normal index and absence of agglutination with the serum of Cases 6 and 7, the same serum giving a high index and marked agglutination reaction against the London organisms. It appears probable in order to obtain the fullest effects from a vaccine or serum treatment that the strain of organism employed in its preparation is of great importance.

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AN INVESTIGATION OF SOME OF THE MORE UNUSUAL FORMS OF ACUTE CONJUNCTIVITIS.

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THE bacteriological identification of the Koch-Weeks bacillus in 1885 and of the Morax-Axenfeld diplo-bacillus in 1896 as specific causes of conjunctivitis form important landmarks in the history of the study of this disease. The resulting types of inflammation are in most cases associated with such characteristic clinical features as to present a more or less diagnostic picture. In cases of doubt the diagnosis may be confirmed by an examination of films prepared from the discharge, the organisms having distinct morphological appearances and their cultural characteristics being rarely called for in making a diagnosis. Recently accounts of these organisms have been published by Inglis Pollock[1] and by Usher and Fraser,[2] whose papers dealing with the bacteriology of conjunctivitis are largely concerned with Koch-Weeks and diplo-bacillary infections and afford strong evidence that these organisms, together with the gonococcus, are responsible for the causation of the great majority of the more acute cases of the disease met with in this country. In any large clinic, however, a considerable percentage of cases of acute conjunctivitis is met with in which the clinical features would appear to present no such generally recognised relation to their etiology. The aim of the present inquiry has been the investigation of cases of this nature met with by us during a period of 15 months, including several cases of gonorrhœal conjunctivitis, while cases of Koch-Weeks and diplo-bacillus conjunctivitis have been entirely, or almost entirely, omitted from this account, the cases encountered having been diagnosed either from clinical features or from film preparations, and no special media for the demonstration of these organisms having been employed.

TECHNIQUE.

In every instance two or more film preparations were made from the discharge and a culture was taken on to some form of solid medium, in most instances blood serum. One of the film preparations was stained by Gram's method and a second film was treated by Leishman's stain, whenever a cytological examination of the exudate was considered necessary. With the exception of some cases of gonorrhœal infection, in which an attempt at cultivation failed, no diagnosis was made from film preparations alone. In all, 105 cases were thus examined, but a certain small proportion of these include cases in which either the Koch-Weeks or Morax-Axenfeld bacillus was, in all probability, the main factor at work and are considered here only to complete the account of the other organisms present in addition. In a few cases films and cultures were taken also from other lesions in the body when these were thought to have any bearing upon the condition of the eyes. The cases were derived mainly from the Royal London Ophthalmic Hospital; a considerably smaller number from the ophthalmic department of St. Thomas's Hospital are also included. The organisms met with were in order of frequency a diphtheroid bacillus (60 times), a white staphylococcus (28 times), the gonococcus (27 times), the staphylococcus aureus (24 times), a streptococcus (10 times), an intermediate staphylococcus (3 times), the diphtheria bacillus (twice), and an unclassified coccus (once).

The cases are grouped under the heading of the various organisms present, but since a mixed infection was frequent some overlapping is unavoidable.

GROUP 1.—STREPTOCOCCI.

There were altogether ten cases of streptococcal infection, and in each case an attempt was made to procure the full cultural characteristics of the organism; in two instances, however, owing to the additional presence of a diphtheroid bacillus the streptococcus could not be isolated. In one other case the diphtheria bacillus, and in another both albus and aureus were present in addition; the former case is considered under Group 7. In the two cases in which the streptococcus was not isolated one was a severe attack with membrane formation, the other of moderate severity only and unaccompanied by actual membrane. Five of the streptococci isolated were classed on the evidence of Gordon's tests as the streptococcus pyogenes according to the classification of Andrewes and Horder.[3] In one of these five cases, a child, aged one week, a similar organism was present also in a sloughing hæmatoma of the face, and the fact that the mother died three days after delivery, presumably from some septic condition, points to the maternal passage as the probable source of infection. One of the pyogenes cases was accompanied by the diphtheria bacillus; there was well-marked membrane formation in this case and corneal infiltration. In the remaining three cases membrane formation was present in each instance and in two cases the eye was destroyed. A different variety of streptococcus was isolated in two instances and should probably be classed with the streptococcus fæcalis group. The cultural characters were almost identical in the two cases. The coccus was Gram-positive and occurred in chains of from 10 to 20. On agar slant typical streptococcal colonies were found. On jelly slant, at 22° C., no liquefaction. Litmus milk: acid, no clot. Gordon's media affected were: maltose, salicin, lactose, xylose, raffinose, arabinose, mannite, dextrose, and glycerine. Unaffected: erythrite, sorbit, and cane sugar. These media were identical in the two cases with the exception that litmus glycerine was acidified by the one organism and not by the other. In neutral red broth, anaerobically, a green fluorescence was produced by one organism only.

The occurrence of this same organism, of unusual characters, is of the more interest since the patients were brothers who attended the hospital at about the same time, and there is little doubt that they infected each other. Of these brothers one lost his eye; the other had only a mild attack of conjunctivitis which was associated with the onset of measles and which cleared up rapidly, affording a good example of the difference of personal resistance to the same organism. In another case, occurring in a small child with severe conjunctivitis accompanied by membrane formation, a streptococcus of unusual cultural characteristics was obtained. The organism was Gram-positive and occurred in very long chains. It formed very delicate colonies on agar and grew on jelly without liquefying it. It was transferred into a large number of Gordon's media and, with the exception of sorbit, acidified all of them. It produced green fluorescence in neutral red broth anaerobically. The organism was inoculated into the peritoneal cavity of a

[1] Inglis Pollock: The Bacteriology of Conjunctivis, Transactions of the Ophthalmological Society of the United Kingdom, vol. xxv., 1905.
[2] C. H. Usher and Henry Fraser: An Analysis of a Series of Conjunctivitis Cases seen in Aberdeen.

[3] F. W. Andrewes and J. T Horder: THE LANCET, Sept. 15th, 1906 p. 708.

mouse and caused death in 12 hours; the streptococcus was recovered from the spleen, blood, and peritoneum.

The nine cases in which streptococci were considered the causative factor include some of the most severe cases met with in the series. In one case, however, in which the conjunctival inflammation preceded the onset of measles the symptoms were of a very mild character. The main clinical features are tabulated below:—

Unilateral	3	Ulceration of lid margins... ...	2
Bilateral	6	Impetigo	2
Severe	6	Nasal discharge	1
Moderate...	3	Ear discharge	1
Mild	1	Lymphatic glands enlarged ...	2
Discharge { Thin	7	Antecedent measles...	3
Discharge { Purulent...	2	Highest temperature recorded 101° F.	
Membrane on conjunctiva ...	5		
Pellicle[4] on conjunctiva	1		

The following are clinical notes of illustrative cases:—

CASE 1.—A female, aged one year and two months. O.P., R.L.O.H., April 8th, 1907 (Mr. J. H. Parsons). Left eye inflamed four days, left lids red, but not much swollen. Palpebral and bulbar conjunctiva injected and slightly swollen. Very superficial membrane on palpebral conjunctiva of both lids, which could not be stripped off without some hæmorrhage. Thin muco-purulent discharge. Cornea normal. Left pre-auricular gland palpable. Right eye normal. Chronic discharge from left ear. At the last attendance, five days later, the condition had considerably improved.

CASE 2.—A male, aged one year and three months. I.P., R.L.O.H., Jan. 1st, 1907 (Mr. J. H. Fisher). Right eye affected three days. Right lids œdematous, not brawny. Thick yellowish white membrane on conjunctival surface of both lids, which could not be removed without much bleeding. Some muco-purulent discharge. Right cornea very hazy. Left eye normal except for small patch of membrane on conjunctiva of left lower lid. No enlargement of lymphatic glands. Red spot on right cheek and forefinger. General condition fairly good. The disease rapidly progressed to a disastrous issue. Four days after admission the entire right cornea had become infiltrated and staphylomatous, the membrane on the conjunctiva at this time stripping fairly easily and leaving bleeding spots. Left eye normal. Right eye subsequently excised. Child left hospital one month after admission. Right socket was then clean except for small slough at the bottom, and urine contained no albumin.

CASE 3.—A male, aged two years and three months. I.P., R.L.O.H., Jan. 10th, 1906 (Mr. J. B. Lawford). Whooping-cough eight months ago; delicate ever since. Bronchitis 14 days ago. Right lids swollen considerably. Palpebral and bulbar conjunctiva much swollen. Muco-purulent discharge. Purulent mucocele. Deep haze of right cornea. Left eye normal. No enlargement of lymphatic glands. Affection of right cornea progressed rapidly, so that three weeks after admission the entire central portion had become yellow and staphylomatous. A fortnight later the eye was excised, the conjunctival inflammation having then almost subsided and there being no regurgitation from the lacrimal sac. Convalescence uneventful.

CASE 4.—A male, aged four years. O.P., R.L.O.H., Feb. 2nd, 1906 (Mr. Fisher). Brother of preceding patient. Very slight swelling of lids of both eyes with general conjunctival injection and a little watery discharge. Three days later it was reported that the patient had developed measles, but that the eyes were much better.

GROUP 2.—STAPHYLOCOCCUS AUREUS.

This organism was present in 24 cases, in 19 of which it was either the only organism present or was associated with either a white staphylococcus or a diphtheroid bacillus; in these cases it is classed as the causative organism of the disease. In the remaining five cases it was associated with the gonococcus twice, with the Klebs-Löffler bacillus, the Koch-Weeks bacillus, and a streptococcus, once each; in these cases it is considered as a secondary, though not necessarily a negligible, infection.

In view of the fact that the various staphylococci and other pathogenic organisms have on occasion been obtained from the normal conjunctiva, and that many of the attempts to produce by them experimental conjunctivitis in man and animals have failed, the majority of investigators into the bacteriology of conjunctivitis appear to regard the possibility of these organisms causing the disease with considerable reserve. Inglis Pollock[5] says, in agreement with Morax and Petit: "The pneumococcus and the Klebs-Löffler bacillus have occasionally, while the streptococcus and staphylococcus have as a rule, been found on the normal conjunctiva. Consequently the mere finding of these four organisms does not suffice for the diagnosis that a given case is due to them. ..... It is necessary to take into account the number of the microbes, their arrangements ..... etc." Similar views with regard to staphylococcal infection are expressed by Axenfeld[6] and other writers[7]; yet the various staphylococci and even streptococci are found in the normal skin, and no one doubts that they may on occasion give rise to a subcutaneous abscess; nor can a frequent failure to produce conjunctivitis be accepted as convincing, and, indeed, successful results have been recorded. In these cases no attempt has been made to estimate the number of microbes present, but their arrangement in the films was in each case noted. If the nature of the cells in the discharge plainly indicated an acute inflammation, if a culture taken from the fluid yielded an organism of known pathogenicity, and if similar organisms were present in the films (and preferably within the cells), that organism was considered the causative agent.

In 19 of the cases in this group, therefore, the causative agent was considered to be the staphylococcus aureus. In three of these cases cultures were also taken from other lesions present in the body. In one case a pure culture of the staphylococcus aureus was obtained from the pus on incising an abscess of the neck; in this case, a small child, the conjunctival condition had progressed to complete loss of the eyes and the child subsequently died from septic absorption. In one case a nasal discharge was present and from this a white staphylococcus and the micrococcus catarrhalis were obtained, but no aureus. In the third case an impetiginous condition of the scalp was present and aureus was obtained from one of the lesions; it is possible that the conjunctiva was secondarily infected from the head.

In the great majority of all the cases films from the discharge showed numerous microphages, many of which were greatly degenerated, the organisms appearing for the most part as Gram-positive diplococci, a certain number of these being within the phagocytes. It was exceptional to see a staphylococcal arrangement in the films and, if no cultural tests are made, both these and other organisms are liable to be mistaken for the pneumococcus. In every instance large, bright yellow colonies of a Gram-positive staphylococcus were obtained upon agar and in nearly all cases these were subcultered on to gelatin and produced liquefaction in from 24 to 48 hours. This early liquefaction of gelatin is considered by Axenfeld[8] and others to be a good test of the relative pathogenicity of the various staphylococci.

In a few cases cultures were taken from the eye on two separate occasions, in each instance with identical results. As a control three strains, chosen indiscriminately, were passed through all the ordinary media and in addition through all Gordon's carbohydrate tests. The results were found to differ in no way from those obtained with various strains of aureus derived from other parts of the body in disease. One of these strains was injected into the vein of a rabbit; the animal died in ten hours; no lesions were found post mortem and a pure culture of a *white* staphylococcus was obtained from its spleen. A further inoculation of the original culture was made into the hind leg of a guinea-pig and resulted in a local abscess; the animal was killed one week later and cultures were taken from the spleen and the abscess; in both cases a *white* staphylococcus only was obtained. This coccus on being submitted to Gordon's tests gave results absolutely identical with those of the original yellow coccus. The result is of interest as indicating the possibility of an aureus losing its power of pigment production and appearing as an albus, though still retaining its other cultural characteristics.

The 19 cases in which the staphylococcus aureus was believed to be the causative organism were on the whole of severe type; only four could be designated as mild. The leading features of the 18 cases of which clinical notes are available are presented in the following table:—

Unilateral	7	Ulceration of lid margins ...	3
Bilateral	11	Impetigo	5
Severe	8	Nasal discharge...	2
Moderate	6	Ear discharge	2
Mild	4	Lymphatic glands enlarged ...	8
Discharge { Thin	16	Lymphangitis of face	1
Discharge { Purulent	2	Antecedent measles...	3
Membrane on conjunctiva ...	5	Highest temperature noted 100° F.	
Pellicle on conjunctiva	1		

The following are brief notes of illustrative cases:—

CASE 5.—A female, aged 27 years. O.P., R.L.O.H., Oct. 8th, 1906 (Mr. A. Lawson). Both eyes inflamed 24 hours. Slight injection and very slight swelling of conjunctiva of both eyes. A very little watery discharge. Cornea normal. Both preauricular glands just palpable but

[4] By the term "pellicle," used in this and subsequent tables, it is intended to describe a coherent sheet of fibrinous material which could be stripped off, leaving an injected but not bleeding conjunctival surface, in contradistinction to true membrane which could not be separated without hæmorrhage.

[5] Loc. cit.

[6] Theodor Axenfeld: Die Bakteriologie in der Augenheilkunde, 1907.

[7] J. H. Parsons: The Pathology of the Eye, vol. i., part 1.

[8] Loc. cit.

not tender. Four days later the patient was quite well, except for slight stickiness of lids after sleep.

CASE 6.—A male, aged 16 years. I.P., R.L.O.H., April 3rd, 1906 (Mr. W. T. H. Spicer). Right eye watery and painful three days; running from nose and sore throat for same period. Right lids very slightly swollen with congestive discolouration. Conjunctiva of both lids covered by a yellowish-grey pellicle which could be fairly easily detached, leaving an injected, but not swollen, conjunctival surface. Bulbar conjunctiva considerably injected but not swollen; pellicle did not extend to it. Watery discharge. Cornea not affected. Infection of skin of both lid margins with linear distribution on upper, in circular patches on lower, lid; large angular area at outer canthus. Infective process had proceeded to varying extent in different areas, so that it could be seen to be initiated by a subcuticular infiltration covered by a shiny cuticle which later lost its lustre, giving rise eventually to an opaque, greyish membrane. Right preauricular gland enlarged, hard, and tender; cervical glands on both sides of neck palpable. Red, slightly papular, eruption on right side of face. Left conjunctiva and lids normal. No membrane on fauces. Two days later left conjunctiva became slightly injected and eye watery. A week later, when the patient was discharged from hospital, there remained only slight swelling of right lids.

CASE 7.—A female, aged seven years. I.P., S.T.H., July 20th, 1906 (Mr. Lawford). Left eye affected five days. History of exposure to diphtheritic infection. Child pale and fretful. Left eye: lids swollen, closed, and somewhat brawny. Palpebral conjunctiva covered by a thin, yellowish pellicle which extended to both fornices and slightly on to the bulbar conjunctiva, and on separation left a bleeding surface; slight chemosis and congestion of bulbar conjunctiva. Muco-purulent discharge. Cornea bright. Left preauricular gland enlarged. Right eye normal. 6000 units of diphtheritic antitoxin were given shortly after admission to hospital. Highest temperature during stay in hospital 100° F. Patient was discharged in 11 days, when the swelling and membrane had nearly disappeared.

CASE 8.—A female, aged seven years. I.P., R.L.O.H., Sept. 29th, 1906 (Mr. R. M. Gunn). Yellow sty on left lower lid noticed four days ago. Left eye closed, cheek swollen, and preauricular gland enlarged two days. Discharge from nose noticed 24 hours. Left eye: greyish yellow absolutely adherent membrane involved almost entire margin of upper and outer half of margin of lower lid; great induration of lids; palpebral conjunctiva not seen, bulbar conjunctiva hyperæmic. Some thin discharge. Right eye: similar membrane on outer part of upper lid margin; did not extend on to conjunctiva, which was normal. Cornea normal. Lymphangitis of left side of face and tender swelling of right and left preauricular and cervical glands. Membrane inside left nostril. Fauces normal. Knee-jerks present. Three days later small circular patch of membrane in skin of face just below right lower lid. A week after admission the condition had greatly improved, but there was a little thin greyish membrane in the conjunctiva of the left lower lid continuous with that on the cutaneous surface; conjunctiva elsewhere simply thickened and injected; bead of yellow discharge at inner canthus. A week later patient was discharged cured.

In the following case the Koch-Weeks bacillus was found associated with staphylococcus aureus.

CASE 9.—A female, aged 21 years. O.P., R.L.O.H., Feb. 14th, 1906 (Mr. E. Treacher Collins). Left eye excised three years ago. Sore throat and swelling of glands in left side of neck four days. Swelling of lids and discharge from left conjunctiva three days. The conjunctiva of the left socket presented a shaggy yellow appearance owing to a superficial necrosis of the conjunctiva of the lids; a similar process had involved the lid margins around the bases of many of the lashes. Much flaky yellow discharge. Some œdema of left side of face; left preauricular and cervical lymphatic glands considerably enlarged and slightly tender. Right eye normal; slight œdema of right side of face. Hyperæmia of fauces; no membrane. Temperature 99·8° F. Patient looked and felt fairly well. Four days later the conjunctiva of the socket was almost normal in appearance.

In this case the clinical features were so much at variance with those characteristic of a simple Koch-Weeks infection as strongly to suggest that it was the staphylococcus aureus which had played the chief rôle in the production of the clinical picture.

GROUP 3.—AN INTERMEDIATE STAPHYLOCOCCUS.

This organism was present three times, twice in pure culture and once in association with a diphtheroid bacillus; in each case it was considered the cause of the lesion. In each instance cultures of a Gram-positive staphylococcus were obtained, which, after prolonged exposure to sunlight, remained of a colour intermediate between aureus and albus. In one case a subculture upon gelatin showed commencing liquefaction in 48 hours, becoming complete in six days. In the remaining two cases the fullest cultural characters were taken and were found to be similar to those obtained from the aureus strains of the preceding group. The three cases occurred in children under six years of age. The first case was a rather acute, and extremely intractable, bilateral conjunctivitis. There was a watery discharge with a few flakes, slight thickening of the lid margins, and some enlargement of both preauricular lymphatic glands. The second case was unilateral and associated with vesicle formation on the lid margins, followed by superficial necrosis which extended to the palpebral conjunctiva. The preauricular gland was enlarged and the temperature reached 101° F. The third case was a mild bilateral conjunctivitis with superficial membrane formation in both lower fornices.

GROUP 4.—AN UNCLASSIFIED COCCUS.

This was present in one instance and was associated with a diphtheroid bacillus. The films showed numerous microphages and a number of Gram-positive diplococci, some of which were intracellular. On agar small, round, white colonies were obtained which were intermediate in size between those usual for a streptococcus and those for a staphylococcus; they consisted of Gram-positive cocci in pairs and small clumps; in broth they appeared in small clumps and in short chains of two and four. In neutral red broth they grew well anaerobically but without changing the colour of the medium. Gelatin was liquefied in eight days. Milk and lead acetate were unaltered. No indol was formed in peptone broth. Of the carbohydrate media, lactose, maltose, cane sugar, and arabinose were acidified; xylose, mannite, salicin, raffinose, erythrite, and sorbit were unaltered. The coccus was non-pathogenic to a guinea-pig. We have isolated an exactly identical organism from a case of acute cellulitis. The organism appears to have some characters common to both the streptococci and staphylococci. The case from which it was derived in this instance was a unilateral conjunctivitis without corneal lesion in a child five years of age. There was considerable swelling of the conjunctiva with thin mucinoid discharge containing a few thicker flakes. The preauricular lymphatic gland on the same side as the affected eye was just palpable. The patient did not attend the hospital a second time.

GROUP 5.—STAPHYLOCOCCUS ALBUS.

This organism occurred altogether 28 times. On 12 occasions it was associated with other pathogenic organisms—namely, aureus five times, gonococcus three times, Koch-Weeks bacillus twice, Morax-Axenfeld bacillus, and a streptococcus once. In the remaining 16 cases it was either the only organism present or was associated with a diphtheroid bacillus. These 16 cases were accompanied by a considerable conjunctival discharge, the cells in which were mainly polynuclear; in the great majority of the films Gram-positive cocci were present, and many of these were inside the leucocytes. Large white colonies were obtained on agar in each case and these remained white on being exposed to the light for some days. In the majority of cases a subculture was taken on to gelatin and this was, as a rule, liquefied in from two to (more commonly) seven days. In three cases cultures were taken also from a nasal discharge which was present; on one occasion albus only was grown from the nose, once albus and the micrococcus catarrhalis, and once albus and aureus. In the last case the complete cultural characters of the albus, from the eye and from the nose, were investigated. The results were strictly identical in two cases.

Since a white staphylococcus is stated to have been frequently isolated from the normal eye, and since this class of organism is frequently one of low virulence, the question has arisen as to whether it can ever give rise to an acute conjunctival infection. In 16 out of these 28 cases this was the only organism of known pathogenicity found; it was present not only in the cultures but as a rule in the films and frequently within the phagocytes; moreover, in three cases it was present also in another, and possibly the primary, lesion. If albus is not allowed to be the cause of the infection it must be supposed either that a known causative agent was overlooked, or that some unknown organism was the cause of the disease. Every precaution was taken to guard against the former contingency and the latter supposition seems unnecessary, for some species of albus approach closely to the virulent staphylococcus aureus in their cultural characters, and there is a wide range both in the virulence of any particular organism and the resistance of any particular person; there is, too, sufficient evidence, both clinical and experimental, that a white staphylococcus can produce an acute inflammation. The cases in which a staphylococcus albus appeared to be the causative organism were almost all of mild type. In one case, however, a wasted unhealthy child, the infection was of a very severe character.

The main clinical features are presented in the following table:—

Unilateral	5	Ulceration of, or membrane on, lid margins	2
Bilateral...	11	Impetigo	6
Severe	1	Nasal discharge	4
Moderate	1	Lymphatic glands enlarged ...	5
Mild...	14	Lymphangitis of face	1
Discharge { Thin	15	Antecedent measles	3
Discharge { Purulent	1	Highest recorded temperature 99·4° F.	
Membrane on conjunctiva ...	2		
Pellicle ,, ,, ...	2		

The following are notes of illustrative cases:—

CASE 10.—A female, aged 19 days. O.P., R.L.O.H., April 6th, 1906 (Mr. P. Flemming). Discharge from eyes noticed third day after birth. Some swelling of lids of both eyes. Palpebral conjunctiva succulent and purplish. Muco-purulent discharge. Corneæ normal. Eyes quite well in five days.

CASE 11.—A female, aged 30 years. O.P., R.L.O.H., Sept. 24th, 1906 (Mr. W. Lang). Right eye affected 36 hours. Pink œdema of both right lids, extending inwards to nose and outwards on to cheek. Palpebral and bulbar conjunctiva considerably swollen; slight follicular enlargement. Thin discharge. Cornea normal. Right preauricular and cervical lymphatic glands enlarged. Left eye not affected. Temperature 99·4° F. Condition of eye improved rapidly but three days after the first attendance the left conjunctiva became injected and slightly swollen without enlargement of lymphatic glands. Both eyes were almost well four days later.

CASE 12.—A male, aged 13 years, O.P., R.L.O.H., Oct. 24th, 1906 (Mr. Lawford). Impetigo of left foot "on and off for a long time." Right nostril sore for three or four months. Right eye affected four days. Right lids swollen and indurated; many small flattened vesicles on margins of both lids. Palpebral conjunctiva very red, swollen, and follicular. Discharge thin with a few flakes. Cornea normal. Right preauricular and submaxillary lymphatic glands much swollen. Impetiginous sores on toes of left foot; glands in left groin enlarged. Temperature 99° F. Rapid improvement under treatment.

CASE 13.—A female, aged one year, O.P., R.L.O.H., Feb. 14th, 1906 (Mr. Gunn). Discharge from right eye five days. Ulceration of lower lid noticed one day. Slight swelling of right lids; some ulceration of skin at inner canthus. Palpebral and bulbar conjunctiva slightly swollen; superficial yellowish grey necrosis of conjunctiva of both lids. A very little thin discharge. Cornea normal. Left eye not affected. A week later the condition of the conjunctiva had greatly improved, but a minute corneal ulcer had developed. This had healed 17 days later.

The line of treatment adopted in the staphylococcal and streptococcal infections was as follows. In those cases in which the conjunctival inflammation was not associated with membrane formation or ulceration of the lids the conjunctiva was brushed over daily with a solution of silver nitrate, usually of the strength of five grains to the ounce and the conjunctival sac was washed out every four to six hours with some antiseptic lotion: perchloride of mercury in the strength of one part in 10,000 appeared to be the most satisfactory for this purpose. Where membrane formation was present a 20 per cent. solution of argyrol was used instead of nitrate of silver, and was found to have no tendency to produce extension of the necrotic process, such as has been observed in cases of this type after the use of silver nitrate. In those cases in which there was an associated infection of the skin of the lids or their margins without corneal lesions the application of boric fomentations to the lids, by bringing about a rapid restoration of the skin to a healthy condition, was found to act as a valuable adjuvant to the treatment of the conjunctival sac. Corneal ulceration appeared to afford a contraindication to the use of fomentations. The frequent application of moist heat to the lids in the form of hot bathing was found to have a beneficial effect in cases with this complication. In the more severe cases the general condition of the patient was frequently a factor demanding special attention. In a few cases a tardy convalescence was associated with a residual infection of the lash follicles, evidenced by thickening of the lid margins and hypersensitiveness when the cilia were stroked with the finger; satisfactory progress was usually maintained by daily epilation of loose lashes and scrubbing of the lid margins with a pledget of wool soaked in a 15 per cent. solution of protargol.

A percentage comparison of the main features met with in the cases associated with the streptococci, staphylococcus aureus, and staphylococcus albus gives the following results:—

—	Unilateral.	Bilateral.	Severe.	Mild.	Membrane.	Pellicle	Cornea involved.	Enlargement of lymphatic glands.	Impetigo or ear discharge.	Nasal discharge.	Antecedent measles.
	%	%	%	%	%	%	%	%	%	%	%
Streptococci ...	33·3	66·7	55·5	9·0	55·5	11·0	33·3	22·2	33·3	11·0	33·3
Staphylococcus aureus	37·7	62·3	44·4	22·2	27·7	22·2	33·3	44·4	37·7	11·0	15·6
Staphylococcus albus	31·0	69·0	6·25	87·5	12·5	12·5	18·7	31·25	37·5	25·0	18·7

The great majority of these infections occurred in young children. In all the groups a thick purulent discharge was rarely met with, the character of the discharge being usually glairy with some solid flakes, or watery. Conjunctival hæmorrhages, so frequently met with in Koch-Weeks conjunctivitis, were observed in only two of the cases, both albus infections; an associated "angular" affection of the lid margins was not met with. A possible exposure to contagion was noted in one of the aureus and in one of the albus cases, and in the mild streptococcal affection occurring during the prodromal stage of measles.

From the above considerations it is evident that the clinical symptoms in the various infections presented many points of similarity, but that the severity of the type of infection showed a direct relation to the generally recognised pathogenicity of the causative type of organism. Membrane formation was met with in association with all the organisms in the group. The phenomenon of membranous formations was particularly observed, and was met with in various forms. In some of these a mere fibrinous pellicle was present adhering loosely to a conjunctival surface which presented when exposed an injected or granular appearance. In other cases the inflammatory process had apparently proceeded further, resulting in the destruction of the most superficial layers of the conjunctiva, which had become incorporated in the membranous structure; such membranes were more firmly adherent, and their removal was associated with conjunctival hæmorrhage. In other cases, again, the process had extended still more deeply, resulting in a more or less extensive necrosis of the tissues; such membranes were firmly adherent so that their removal would have entailed the display of an ulcerated surface.

The question of the relative frequency of glandular enlargement in the various infections presents a point of interest; such enlargement was usually observed in the severe cases of staphylococcal conjunctivitis, but was notably absent in the most virulent streptococcal cases.[9]

Corneal ulceration, although met with in all the types of infection, occurred in its severest and most intractable form in the streptococcal infections; indeed, there can be no doubt that the supervention of this complication in such infections renders the prognosis as to the preservation of the affected eye exceedingly grave, while the spread of the infection to the interior of the globe subsequent to perforation is liable to prove a menace to the actual life of the patient.

GROUP 6.—THE GONOCOCCUS.

This organism was obtained altogether 27 times; but this number cannot be taken as the proper proportion of its occurrence in the series, since many cases of ophthalmia of the newly born which presented themselves were not investigated. The majority of cases of gonorrhœal infection of the eyes in older children or adults are included. In 13 cases the gonococcus was associated with a diphtheroid bacillus. A white staphylococcus was present in two of these cases and in one other case, or in three cases altogether. The staphylococcus aureus was present twice, while the gonococcus was the only organism found in 11 cases. In only about one-fourth of the cases was a growth of the gonococcus obtained, the bacteriological diagnosis of the remainder resting with the examination of the films. No clinical difference in the severity of the case could be made out between those patients from whom a growth of the organism was obtained and in those from whom none was obtained; nor did the presence or absence of a diphtheroid bacillus appear to affect the clinical course. The two cases associated with aureus were both severe, in one case the affected eye being lost, while the other case was complicated by corneal ulceration. Of the three cases accompanied by albus two were of moderate severity and one was a mild affection. In five of the cases in older patients films were examined from the associated urethral or vaginal discharge and gonococci were found in each instance.

The question of the presence of coarsely granular eosinophile cells in the discharge and in the blood was particularly investigated. On the whole a slight but fairly constant increase in the eosinophile cells of the blood and of the pus was found to be present in the gonorrhœal infections; it was often, however, inconspicuous and occasionally absent, so that no reliance can be placed upon it in diagnosis. The presence of eosinophiles in the blood in the proportion of 2 or more per cent. was considered to constitute an eosinophilia.

[9] Cf. Jessop: Transactions of the Ophthalmological Society of the United Kingdom, vol. xxii.

The question of the existence of a gonorrhœal eosinophilia is considered by Cabot,[10] who considers an eosinophilia of 4·2 per cent. as within the normal limits, a number with which it is impossible to agree. In these cases no relation could be made out between the severity of the infection and the number of eosinophile cells present in either the discharge or the blood. Of these 27 cases 18 occurred in children under one month old and nine in older children or adults. The actual number of children *under one month old* examined in this series was 22. In 18 of these gonococci were present; in 4 they were found neither in the films after a prolonged search nor in the cultures. The organisms present in these four cases were a streptococcus twice, a white staphylococcus once, and a diphtheroid bacillus once.

GROUP 7.—THE DIPHTHERIA BACILLUS.

In 105 cases examined this organism was met with twice only, and since these cases represent only a small proportion of the total number of patients reviewed, the diphtheria bacillus would seem to be an unusual cause of conjunctivitis. In both these cases another organism was present—namely, in one instance the staphylococcus aureus and in the other the streptococcus pyogenes. Both patients were children suffering from a moderately severe type of conjunctivitis, which was, however, not clinically considered to be diphtheritic. A nasal discharge, from which the diphtheria bacillus was cultivated, was present in both cases and was probably the primary source of infection.

It is well known that diphtheroid bacilli are frequently present in the conjunctival sac, as also in the nasal mucous membrane, and that these organisms cannot be distinguished from the genuine Klebs-Löffler bacilli either morphologically or by their cultural appearances upon solid media. The most useful medium for distinguishing the two organisms is undoubtedly litmus dextrose broth, which is acidified by the diphtheria bacillus in 12 hours at 37° C. The diphtheroid bacilli met with in the eye affect dextrose so rarely that if a bacillus is present in the discharge and is found to acidify litmus dextrose in from 12 to 24 hours it is advisable to administer antidiphtheritic serum, whether the case clinically resembles diphtheritic conjunctivitis or not. By taking the initial culture on to a solid medium and by subculturing from that into dextrose a bacteriological diagnosis sufficient for practical purposes can if necessary be made in 24 hours. Since, however, diphtheroid bacilli are exceptionally met with which are capable of acidifying dextrose the diagnosis can be completed only by animal inoculation. In these cases two cubic centimetres of a thin suspension of the bacilli were injected subcutaneously into guinea-pigs, resulting in both instances in the death of the animal in from 30 to 36 hours with the ordinary post-mortem appearances of the disease; in one case the bacillus was recovered from the spleen.

The following are clinical notes of the two cases in which the Klebs-Löffler bacillus was found:—

CASE 14.—A male, aged one year and 11 months, I.P., S.T.H., Feb. 15th, 1907 (Mr. Lawford). Child ailing one week: croupy cough, no history of exposure to diphtheria. Right eye: both lids swollen; muco-purulent discharge; thin yellow membrane on conjunctiva of both lids, which was peeled off with difficulty, leaving a bleeding surface. Centre of cornea infiltrated. (When first seen, five days before admission, the membrane was limited to the lower lid, extending to the upper lid two days later; the cornea remained clear until the day before admission.) Left eye normal. Profuse nasal discharge and excoriation of left nostril. No membrane on tonsils. Temperature normal. Urine contained a strong trace of albumin. Klebs-Löffler bacillus and streptococcus pyogenes present in the conjunctival sac. On the first day after admission 8000 units, and on the third, fourth, and fifth days 4000 units of diphtheritic antitoxin were administered, the patient developing an antitoxin rash two days after the last injection; local treatment was limited to the use of antiseptic lotions, the use of nitrate of silver, which had been applied before admission to hospital, being discarded. The lids remained free from membrane after the fourth day and convalescence, although protracted, was satisfactory. Twelve days after admission a pustule was noted on the right cheek below the right eye. Cultures taken at about this date showed streptococci but no bacilli. The temperature on several occasions was as high as 100° F. but never rose above this, and the urine was free from albumin three weeks after admission. The patient left hospital on March 25th, the conjunctiva being then free from signs of inflammation and the cornea having healed. He was readmitted on May 13th, the right eye having been inflamed for a week and the condition being as follows. Right lids swollen; thin yellow absolutely adherent membrane on conjunctiva of both lids, which was considerably swollen; bulbar conjunctiva injected but very slightly swollen. Purulent discharge. Cornea not affected. Left eye normal. Right preauricular and submaxillary lymphatic glands enlarged. Urine contained no albumin. Temperature 101° F. The conjunctiva yielded a pure culture of streptococcus pyogenes; no bacilli were found either in culture or in film preparations. Four days later, under treatment with perchloride of mercury lotion, the condition showed considerable improvement, the membrane formation being less extensive. There was some superficial scarring of the conjunctiva.

We are much indebted to Mr. Lawford for his permission to publish this case.

The second case was of milder type with superficial membrane on the conjunctiva of both lower lids, enlarged preauricular glands, and thin nasal discharge. The fauces were normal. The patient recovered in 12 days without the use of antitoxin. There were no corneal ulceration, no albuminuria, and no subsequent loss of knee-jerks.

GROUP 8.—DIPHTHEROID BACILLUS.

In 60, or rather more than half of the cases examined, bacilli which morphologically resembled the diphtheria bacillus were present, either in the films, the cultures, or in both. In 49 of the cases other organisms were present in addition; in none of these cases was there any reason to suppose that the diphtheroid bacilli were the causative agents. In the remaining 11 cases, however, these bacilli were the only organisms discovered.

The term "diphtheroid bacillus" includes a variety of organisms, and a number of these have been investigated by Graham-Smith[11] and others with a view to their differentiation. The majority of those met with in the eye in this series, however, appeared to conform to the same type, while a few presented some cultural modifications; those which we have investigated from other parts of the body grew more abundantly in broth and more readily produced acid reaction in litmus dextrose broth. The name "diphtheroid bacillus" does not, in this account, include Hoffmann's bacillus, which is morphologically distinct from the Klebs-Löffler bacillus, and which was not met with in these cases. The frequent presence of these bacilli, both in the healthy and in the diseased eye, would seem to indicate for them a mainly saprophytic existence; they may frequently be seen in large numbers in a film within the epithelial cells and unaccompanied by evidence of inflammation.

The diphtheroid bacilli met with showed the following morphological and cultural characters. On agar a good growth, forming in from 12 to 24 hours small pin-point, rather opaque, colonies with slightly irregular margin and presenting a paler periphery with a ditch-like interval between centre and periphery. Films from these colonies show beaded bacilli with the typical arrangement of the diphtheria bacillus, large numbers having well-marked club-shaped ends. In films taken from the water of condensation masses of very beaded bacilli are present, many of them arranged in tight clumps, while streptococcal forms in chains of about eight to ten are not infrequent. The bacilli stain deeply by Gram's method, but their characters are best shown by Löffler's methylene blue; one culture which was kept for three months was found to have lost its property of retaining the stain by Gram's method. On blood agar and nasgar similar colonies are obtained. The bacillus grows well on gelatine at 22° C.; there is no liquefaction of the medium. In broth and in the various carbohydrate media no growth as a rule takes place, but the organisms maintain their existence. In litmus milk growth is often absent or is slight.

In the 11 cases in which diphtheroid bacilli alone were found the causative organism may have been overlooked, but in a few of these the features were clinically anomalous and more than one examination was made with identical results. In a high percentage of these cases the bacilli showed some cultural variations to the type usually observed and it is possible that some species of the diphtheroid bacilli may possess properties pathogenic to man. In a few instances animal inoculations were made but with negative results; the injections were in each case made subcutaneously into the legs of guinea-pigs.

CONCLUSIONS.

That both staphylococcus albus and staphylococcus aureus, as well as streptococci, are capable of exciting an acute conjunctival inflammation. That these organisms when they are present as the only pathogenic bacteria in an inflammatory conjunctival discharge should be considered as the causative agents. That these organisms give rise to a considerable percentage of all cases of acute conjunctivitis. That the severity of the type of inflammation they produce varies

[10] Cabot: Clinical Examination of the Blood, 1904.

[11] G. S. Graham-Smith: The Action of Diphtheria and Diphtheria-like Bacilli on Various Sugars and Carbohydrates, Journal of Hygiene, July, 1906.

on the whole directly with the generally recognised pathogenicity of the members of the group, the most severe cases being associated with the streptococci and the least severe with the white staphylococci; but that the severity of the symptoms produced by any of the individual organisms may vary considerably with the idiosyncrasies of the patient. That there is reason to suppose that these bacteria, when associated with other pathogenic organisms, tend to increase the severity of the conjunctival inflammation. That the types of acute conjunctivitis due to these organisms, although presenting no pathognomonic features, are not infrequently suggestive of their etiology. That staphylococcal, as well as streptococcal, infection of the conjunctiva is liable to be associated with membrane formation. That conjunctivitis due to the diphtheria bacillus is uncommon and may be difficult to diagnose on clinical grounds. That diphtheroid bacilli are present in a high percentage of cases without appearing to influence the nature of the processes. It is probable that they represent more than one species and it is possible that some of these may be pathogenic to man; but there is no evidence that they may ever become transformed into the genuine diphtheria bacillus. That sporadic cases of pneumococcal conjunctivitis must be of rare occurrence in London, not a single case being met with in this series. Inasmuch as the diagnosis of this organism from a streptococcus may be a matter of great difficulty, its identification by film preparations only or by incomplete cultural investigations cannot be relied on; the mere appearance of encapsulation of the organisms in the films is most unreliable as a means of diagnosis. These observations agree with the investigations of others as to the rarity of organisms of the bacillus coli group as causes of acute conjunctivitis.

In conclusion, we have to thank the members of the staff of the Royal London Ophthalmic Hospital and of the Ophthalmic Department of St. Thomas's Hospital for permission to make use of the material from their cases. All the inoculation experiments were performed by Mr. L. S. Dudgeon at St. Thomas's Hospital and some of the organisms isolated were submitted to Gordon's tests by him. We are also indebted to him for his advice on many occasions. We have also to thank Mr. H. E. Gotelee, Mr. W. C. A. Ward, and other ophthalmic house surgeons at St. Thomas's Hospital for their assistance in obtaining the clinical notes of some of the cases.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES OF A CASE OF DISTAL LIGATURE OF THE COMMON CAROTID ARTERY FOR ANEURYSM.

BY J. CRAWFORD RENTON, M.D. EDIN.,
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THE patient, a female, aged 47 years, was sent to see me by Dr. J. Holms of Paisley in October, 1906. She was suffering from a pulsating swelling immediately above the right sterno-clavicular articulation and she complained of the throbbing and of a pain in the region of her heart giving rise from time to time to palpitation. On examination the tumour and its pulsation were distinctly visible and on palpation both were easily felt; the two radial pulses were equal in strength and character. Considering the above facts it was evident that she was suffering from an aneurysm of the first part of the right common carotid artery not involving the innominate or subclavian. I therefore advised that a distal ligature should be applied to the common carotid. Professor R. Stockman saw her in consultation and was satisfied that her general arterial condition was otherwise healthy. The operation was performed, a silk ligature being carried round the artery above the omohyoid. The wound healed by first intention; no headache was complained of, and the patient at the end of four weeks was allowed to lie on the sofa. On examination at the end of this time no pulsation was visible in the swelling and only moderate beating was noticed on palpation. Three months after the operation the patient was unfortunately in a tramcar collision, after which the pulsation increased for some weeks. This has now to a large extent subsided and the patient expresses herself as free from any discomfort.

Remarks.—Ever since Brasdor suggested and Wardrop carried out distal ligature of the common carotid in 1825 cases of aneurysm to which this method is suitable have occurred from time to time, but they are sufficiently rare to allow of the above case being recorded. The great improvement in the aneurysmal condition and the increased comfort which the patient now enjoys seem to justify the operation.

Four weeks after this case was under care Dr. Holms asked me to see another patient with an aneurysm exactly similar to the above. She was 74 years of age and had general arterial disease so that I did not advise operation. It is curious to have had the opportunity of seeing two such cases within six weeks, the more so that no parallel case has come before us for consideration for several years.

Glasgow.

A CASE OF FOREIGN BODY IN THE FEMALE BLADDER.

BY WILLIAM HOOK, L.S.A.

THE patient in the following case was a woman, aged 22 years, who was brought by her mother to my surgery on June 15th. I was informed that owing to difficulty in leaving her work for lavatory purposes her daughter had inserted a cork into her "front passage." An examination of the vagina showed that there was no foreign body there, so I assured her that it must have been expelled and as she no longer felt pain she went home. Returning, however, very shortly she said that she was sure the cork was still there. I then made an inspection, and finding the urethra very low and dilated without the slightest difficulty I passed my finger into the bladder and there came on the cork. About an hour later, having obtained the assistance of my friend, Mr. R. J. Heatly, of Stockwell-road, who put the girl under an anæsthetic, I made an attempt at removal but was unable to locate the foreign body. My friend, however, who has a long forefinger, quickly did so and after failing to grasp it with suitable forceps ultimately succeeded in manipulating it through the urethra. I saw the girl two days later and she then appeared none the worse for her foolish act. The cork measured an inch in length and half an inch in diameter.

Clapham, S.W.

A CASE OF PROLONGED RETENTION OF FOOD IN AN ŒSOPHAGEAL POUCH.

BY WILLIAM AYRES, M.D. DUB.

THE patient, who was a female, 38 years of age, suffering from pulmonary tuberculosis, sent for me as she was troubled with a severe cough. As there was a large cavity opposite the third and fourth ribs on the left side and as there was a large quantity of secretion this cough was naturally thought to be one of the ordinary concomitants of the condition present. A few days subsequent to my first attendance after a violent paroxysm of coughing a peculiar-looking yellow mass was expectorated. The cough was much relieved in a few days. The pathological report was as follows: "The substance expectorated one and a half inches long, five-eighths of an inch wide, is cheese; it must have been lodged in some fossa or in a pouched œsophagus formed by adhesion to a tubercular gland at the bifurcation of the trachea and after irritation from its presence or during an attack of coughing ejected." The patient disliked cheese; only twice during the year had she partaken of such an article of diet—namely, once during August and the last time on Dec. 26th. The substance was ejected on Feb. 5th, so that it must have lain in the pouch for at least six weeks without giving rise to any symptoms.

The points of interest are the size of the piece of cheese and the length of time it was in the pouch. The question will also arise, What, if any, are the powers of digestion possessed by the glands lining the œsophagus?

Brierley Hill.

Medical Societies.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Presidential Address.—A Lantern Demonstration on Some Points in Tropical Diseases.

THE first meeting of this society was held on June 26th, Sir PATRICK MANSON, the President, being in the chair.

The PRESIDENT, in delivering the opening address, said that one important object of the society was to bring together the men who were interesting themselves in tropical medicine with the idea that by so doing the subject itself would be advanced and the members benefited. With a view to securing these objects the society had been placed on a basis as broad as possible. Although domiciled in the metropolis it was open to any member of the profession, whether domiciled in London, Great Britain and Ireland, or abroad, and also to those followers of any science or profession capable of forwarding, directly or indirectly, the interests of tropical medicine. At one time the specialising of tropical medicine was looked on somewhat askance, and still more so the establishment of special schools for the teaching of tropical medicine. Doubtless the formation of the society would be regarded by some in a similar way, but in time the general body of the profession would become acquainted with its objects and work and, as had been the case with the special teaching of tropical medicine, the society would soon be tolerated and ultimately approved. The President then proceeded to compare the tropical medicine of the early "nineties" as represented by Davidson's "Hygiene and Diseases of Warm Climates," published in 1893, with the section on tropical diseases in the new edition of Allbutt's "System of Medicine." In Davidson's work the first chapter in the section on general diseases related to malaria. It was a carefully written article, embracing all the most important knowledge and views of the time; yet in that article there was not a single word on the mosquito as a carrier of malaria. In those days, although Laveran's great discovery had already been before the world 12 years, they had got no further than the conviction that air was a common medium of infection and there was still a lingering belief in the Hippocratic idea that the drinking of marshy water produced enlargement of the spleen. Now a large part of the tropical section of Allbutt's "System" was occupied with the part played by the mosquito in malaria. Everyone knew that the mosquito was the sole vector of malaria and an enormous literature had grown up around a discovery which had changed radically their views not only as regarded the etiology and prophylaxis of malaria, but had given a powerful stimulus to the study of the protozoa in general and also the rôle of insects in the transmission of disease germs. It could not be claimed that there had been much material advance in regard to cholera, leprosy, and beri-beri; but as regarded negro lethargy or the sleeping sickness it might be claimed truly that the whole subject, alike as regarded etiology, symptoms, diagnosis, and treatment, had been completely revolutionised and placed on a sound basis. They now knew that the sleeping sickness was the terminal phase of a trypanosoma infection, a type of disease hitherto unrecognised in human pathology, that the immediate cause of the sleeping symptom was an infiltration of the lymphatic spaces of the brain with certain small mononuclear cells, that the disease was conveyed by the tsetse fly, and that it was amenable to some extent to arsenic, mercury, and certain dyes, all absolutely of recent discovery. The tropical fluxes—diarrhœa and dysenteries—in the aggregate constituted the most important department of tropical medicine, but unfortunately they were still, both as regarded etiology and treatment, in an unsatisfactory state. It was true that the amœba was creeping into favour and that they had got the length of recognising a bacillary dysentery, but the amœba and the bacillus dysenteriæ did not cover the entire field and unfortunately the knowledge of their existence had not materially strengthened the power of treatment. The numerous additions to tropical helminthology were important. Chief among these was Looss's discovery that the larval ankylostome obtained access to the intestinal canal by penetrating the skin or the surface of the body—a discovery suggesting possibilities which had to be reckoned when they studied the route by which access was obtained to the human host. The modern text-books must have chapters on spirillosis, seeing that the term relapsing fever which Murchison and others used and which Carter also used in his studies in India covered not one but a number of infections, spread probably by a corresponding number of previously unsuspected ticks or other blood-suckers. Then the tropical pathologist must take cognisance of a number of diseases of the lower animals, important in themselves, but more important in illustrating principles applicable to human pathology, especially tropical pathology. The study of the anthropode and correlated disease blood-suckers had grown to be so vast a subject that for its proper appreciation special studies had to be made and its teaching relegated to special men. In Davidson's day a single culex was all that they had to study, but nowadays they had to know something about nearly 600 species of mosquitoes and so, in a less degree, with the ticks, the tsetse flies, and several other though less important blood-suckers. He might enumerate many other discoveries and changes, but those he had alluded to sufficed to show that within the last 13 or 14 years the progress in tropical medicine had been remarkable. Not only had recent discovery widened their horizon, but many additional workers were now in the field and hitherto untrodden departments of natural science having a bearing on tropical pathology had been annexed by the tropical pathologist. The multiplication of workers was extraordinary and doubtless was accounted for by the establishment of the several tropical schools in Great Britain and elsewhere, and not least by the sympathy and active encouragement that research in tropical pathology had received at the hands of the British Government. Time was when with justice they could reproach their rulers for indifference in that matter; nowadays quite a different feeling obtained in official circles, and instead of being repressed and cold-shouldered the investigator in tropical pathology was encouraged in every possible way by the British Government and its officers. Other Governments, too, had ceased to be indifferent; some were actively sympathetic. The interest which the British Government had shown in sleeping sickness promised well. The fact that His Majesty's Government had called a conference of the foreign Powers to discuss that subject from an international point of view showed that they were entering on a new era as regarded the Governmental element in the study of tropical disease. It might be that that sleeping sickness conference was but the prelude to similar discussions and international agreements on the subject of other important tropical diseases, a matter of more importance than at the first glance it might appear to be. All over the British tropical possessions laboratories were being established for the special investigation of tropical disease and for the assistance of the tropical practitioner. These laboratories had just began to bear fruit, and he had not the slightest doubt that ten years hence they would have important discoveries as well as an enormous accumulation of important data as a result of that enlightened policy. The rôle of the society was to try to bring them abreast of what was being done by that army of workers, so that those who had to teach in that country and those who went abroad to practise or to investigate should be thoroughly abreast of what had been done and of what was being done, so as to be in the best position to do full justice to tropical patients and to tropical diseases and hygiene and to lend a hand in advancing the subject.

Dr. C. W. DANIELS of the London School of Tropical Medicine gave a lantern demonstration on Some Points in Tropical Diseases. He commenced with diseases such as yaws, not directly fatal, and ended with such serious affections as beri-beri and sleeping sickness; he emphasised the importance of preventive measures in tropical diseases.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on June 18th, when a discussion took place on Opinion and Fact in Medical Evidence; Mr. Walter Schröder presided.—Dr. C. H. Wise, in opening the discussion, commented upon the sharp distinction which is often drawn in practice and in books on evidence between "opinion" and "fact." He said: It is laid down that "a witness should state facts only. His mere opinion is no evidence." Explanations of facts are rejected as "mere opinion" and it is often hinted that medical men are prone to confuse opinion

and fact, to obtrude their opinions instead of confining themselves to the plain statement of observed facts. Three propositions were laid down for discussion: 1. The opinions of a medical witness on observed facts are often more valuable than the mere narration of the facts themselves. A matter of fact, as presented in evidence, may be defined as something of which we obtain a conviction from our internal consciousness or from the use of our senses, something seen, heard, or felt. Medical facts seldom can be produced in any court as primary evidence to speak for themselves. General propositions, being facts, such as the circulation of the blood or mathematical deductions, are excluded. Facts are proved by the testimony of percipient witnesses. When a fact is doubted on reasonable grounds or when a statement is a deduction from observed facts it becomes matter of opinion. For present purposes, a matter of opinion is a conclusion or judgment which is arrived at by comparisons of present observations with recollections of similar observations in like conditions and a balancing of the relative importance of resemblances and differences. Regarded thus, more so-called "fact" is really opinion than we usually realise. For all evidence of fact is really testimony to judgment on observed phenomena, it is something more than a description of the impressions made on our senses and therefore implies a theory or explanation of them. This judgment is generally so simple as to be unconscious and the interpretation of the appearances is matter of general agreement. Similarly the simplest medical evidence is of more value than the bare facts, which testified to alone are unintelligible. If merely the facts that are observed, say, in the case of a broken bone, are given in evidence an ordinary tribunal would fail utterly to appreciate their importance or their meaning unless the medical deductions were also stated. Even skiagrams, which have thrown such a flood of light on such cases, need the explanation and judgment of the skilled observer. 2. In medical evidence a clear line between opinion and fact cannot be drawn. This is one of the chief sources of the weakening of such evidence and yet it is strictly comparable with similar gradations in ordinary testimony to fact. Eye-witnesses may differ as to observed facts. Their perception may be modified by distance, by intervening objects, by dim light, by imperfect sight, by inattention, and by all these in any degree, so there may arise all gradations between what may be fairly called an accurate testimony to what existed or happened, and what is mere guessing from imperfect impressions. Most medical evidence is subject to similar modifications. It is in some cases an accurate conclusion arrived at from observations accurately made, and ranges from almost absolute demonstration to great uncertainty. The varying degrees of the faculty of observation, of development of the *tactus eruditus*, added to the obscurities of the subject, either innate or from surrounding circumstances, lead to doubt and difference. A broken bone may present every gradation from a protrusion of the broken end through the skin, a "fact" manifest and unmistakeable, to the obscure fracture that defies accurate recognition even with the aid of the x rays. This uncertainty is aggravated in some cases by the mutability of the subject matter. Disease is not, as it is commonly regarded, a definite entity, but is the manifestation of the struggle between microbic invasion or injury and the vis medicatrix of nature, in which the more or less complete victory of either combatant results in some one of the protean disorders which we label as ailments. As instance, scarlet fever with its varieties of epidemic type and gradations in unbroken series from mere slight sore throat to the most malignant forms. 3. Medical opinions are often valuable and conclusive, even when they cannot be supported upon cross-examination by the direct evidence of observed facts. This support should, of course, be possible, but its absence is not destructive of the value of the evidence. Experience in medical practice leads to the possibility of a power of recognition, an intuition that may fairly be compared to the method whereby personal identification is effected, although the minute facts leading to it cannot be detailed. A man may be certain in recognition of his friends and completely unable to explain by what facts he does so. The policeman may be quite correct in saying that a man was "drunk," although he is distressingly puzzled when cross-examined as to the actual details which have led him to that opinion. In the same way medical opinion may be a recognition based upon unconscious observations and judgments upon facts which, though undoubtedly present, are intangible and indefinable.—Dr. Charles Mercier suggested that variations in the statements of observed facts were often due to an absence of the power of verbal description. The state of another person's mind could never be known; all that was known was what he said, what he did, how he looked. As a matter of fact, all testimony which was outside our own minds was a matter of opinion.—Earl Russell thought differences resulted from the fact that the standards of comparison varied. It was of little use to state the whole truth in technical terms if the conclusion was not also included. When an opinion pure and simple was expressed the facts which led to that opinion should be extracted.—Dr. F. J. Wethered held that in arriving at a prognosis opinion was distinct from, though founded on, fact.—Dr. Stanley Melville, Dr. Albert Wilson, and Dr. Alexander Ambrose also spoke.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—The final meeting of this society was held on June 26th, when it was formally dissolved and merged into the dermatological section of the Royal Society of Medicine. The President, Dr. Leslie Roberts, was in the chair.—Dr. A. Eddowes showed: 1. A girl, aged 16 years, with a Chronic Pruriginous Eczema affecting the lower limbs chiefly of 11 years' duration. 2. A woman, aged 56 years, with an Infiltrated Patch upon the left temple which had been present for 16 months. The centre was atrophic and the margins were raised and reddened. The diagnosis lay between a tertiary syphilide and a rodent ulcer. 3. A photograph of a case of Malignant Syphilis in a young woman in whom there was great phagedænic ulceration of the nose.—Mr. T. J. P. Hartigan showed: 1. A man, aged 56 years, who had a Rodent Ulcer which the exhibitor had treated with radium. The scar of the original ulcer was now plainly visible, the result being eminently satisfactory. Unfortunately, a fresh nodule had just begun to appear upon the nose, unconnected, however, with the scar. 2. A little girl, aged four years, who had had a Hairy Mole upon the Right Cheek similarly treated. 3. A man, aged 68 years, with Lupus Erythematosus of the Scalp of 40 years' duration. The disease was of the atrophic type and the general health of the patient was quite unimpaired. 4. The daughter of the last patient who had been more or less bald since the age of ten years. When five years old she had had some scalp affection and now three months ago, after a confinement, she began to suffer from an acute attack of what appeared to be eczema of the scalp. The diagnosis was far from obvious, some of the members suggesting that the source of the whole trouble might have been a favus, while others considered that lupus erythematosus was not out of the question.—Mr. Spencer Hurlbutt showed a little boy, aged four years, with a Psoriasiform Patch of the size of a crown-piece upon the abdomen, which began as small ringed spots four months ago and was considered to be ringworm. It did not respond to treatment but had continued to spread. The question now was whether the lesion might not be tuberculous in character.—Dr. G. Norman Meachen showed a male infant, aged eight months, with a Bromide Eruption, affecting the vaccination scars primarily as well as appearing in the form of small raised plaques upon the thigh. The source of the drug had not yet been successfully traced.—Dr. T. D. Savill showed: 1. A young woman, aged 25 years, with Epidermolysis Bullosa Hereditaria, affecting chiefly the legs. All the nails of the hands and feet were diseased. She had improved much under the influence of small doses of ergot, administered twice a day. 2. A case of Exfoliation of the Palms in a young woman, aged 21 years, who had suffered in this manner for three successive summers. There was some hyperidrosis.

MILLER HOSPITAL.—A festival dinner in aid of the funds of the Miller Hospital and Royal Kent Dispensary, Greenwich, was held on June 27th at De Keyser's Royal Hotel, Victoria Embankment. The Lord Mayor of London presided. In proposing the toast of the evening, "Success to the Miller Hospital," he said that relief had been provided for the sick and necessitous poor of Greenwich by this institution for 124 years. The annual expenditure was £4500, of which only £450 was assured. During the past year 285 in-patients had been received and 18,624 out-patients treated, 600 patients visited at their homes, and 560 maternity cases attended. If a suitable site could be found it was thought desirable to extend the hospital but, of course, money would be required to do this. In the course of the evening subscriptions to the amount of £1200 were announced.

Reviews and Notices of Books.

A Text book of the Practice of Medicine for Students and Practitioners. By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital. Second edition. Illustrated. London: Henry Kimpton. 1907. Pp. 1132. Price 21*s*.

THE first edition of this work was published in 1905 and the fact that so short a time has elapsed before a second edition has been found necessary is sufficient proof that the efforts of the author have met with the recognition which they deserve. In our review of the former edition[1] we expressed the favourable opinion which we had formed of the book as a whole and we also explained its plan and scope. We need not therefore dwell at length on the general plan of this text-book but will merely indicate the changes and additions which have been made in the present volume. These have involved but little alteration in the size of the work (a difference of 13 pages only), but every care has been taken to embody the latest views which have received general acceptance as being scientifically and clinically correct. Dr. Hare has shown a practical judgment in coming to the conclusion that the needs of the student and practitioner would be most satisfactorily met by excluding statements open to criticism and presenting facts which would prove useful in practice. Amongst the additions in this edition we notice some remarks on myelopathic albumosuria. The reference to this interesting condition is, however, very brief and only occupies ten lines. It is to be regretted that the valuable observations on this subject by Dr. C. W. Paget Moffatt and other observers have not been more fully referred to.

The subject of malarial fever is no longer placed amongst the "Infectious Diseases" but is considered in the section on "Diseases Due to Animal Parasites." No alteration has been made in the definition of the disease and although on etiological grounds there may be justification for this change in classification, yet for purposes of convenience the older plan is to be preferred. We may also remark that in the last edition of "The Nomenclature of Diseases," drawn up by a joint committee appointed by the Royal College of Physicians of London, "malaria" is still considered an "infective disease." The same alteration has been made in respect to kala-azar (this again being out of accord with the opinion of the committee just named). The results of Leishman's researches as to the etiology of this disease are duly described.

In the section on "Special Forms of Neuritis" a brief description is given of "obstetrical or birth palsy"—an affection of the nerves of the brachial plexus occurring after difficult and protracted labours, especially in cases of breech presentation.

It is somewhat disappointing to find that in the portions of the work devoted to treatment the power of description and lucidity of expression so characteristic of the author's manner of writing are not maintained at their usual level. His directions as to the treatment of any particular disease, as a rule, lack that detail which is so useful to a practitioner when seeking help in the therapeutics of a difficult case. The methods used in many instances differ from those usually employed in this country. Generally speaking that is of advantage as much may be learned from the experience of those trained in different schools. There are also some noteworthy omissions of drugs frequently adopted by English practitioners. For instance, stramonium is not mentioned by name with regard to the treatment of asthma, although we presume that Dr. Hare includes it under the heading of "Belladonna and its Sister Drugs." Still, no proper directions are given for its employment. Want of detail is again to be noticed in the description of the treatment of pulmonary tuberculosis on sanatorium lines.

Taking the work as a whole, however, we can recommend it as one containing a vast amount of information useful to students and practitioners. The sections on tropical diseases may be especially mentioned, and the text-book will be useful to medical men practising in countries in which such diseases are likely to be met with.

[1] THE LANCET, March 10th, 1906, p. 678.

Annual Report of the Sanitary Commissioner with the Government of India for 1905, with Appendices and Returns of Sickness and Mortality among European Troops, Native Troops, and Prisoners in India for the Year 1905. Calcutta: Office of the Superintendent of Government Printing. 1906. Pp. 143. Price Rs. 3 or 4*s*. 6*d*.

THE report before us contains, as in previous years, the facts relating to health concerning the European army of India, the native army of India, and the gaols of India, the vital statistics of the general population, the history of the chief diseases amongst the general population, and the general history of vaccination in India, and concludes with some general remarks on various subjects. As regards the meteorology of the year 1905 this was characterised by the severity and persistency of the cold weather and the lateness and scantiness of the monsoon rains, especially in the north-west, and the consequent high temperature. With regard to the health of the European army the admissions for venereal disease head the list, although the rate was considerably lower than in previous years, being 153·7 per mille, as contrasted with 198·5 in 1904 and 385·5 for the decennium. Malarial and enteric fevers likewise gave a diminished ratio. The main causes of death were enteric fever and hepatic abscess, these diseases accounting for 29·7 and 11·7 per cent. of the total mortality respectively. The northern command was the healthiest as regards the numbers of those constantly sick and as regards the mortality-rate.

In the remarks on the various diseases we find a review of the different methods of prophylaxis against malaria, and the opinion is given that for practical prevention the methods of Koch and Morgenroth are probably the best—viz., the prescribing of 15 grains of quinine every ninth or tenth day, or on two consecutive days each week, whereby the drug is in such concentration that the parasites are quickly and easily killed, being still in those stages of development which are most susceptible to its action. The method of Plehn, which consists in the giving of eight grains every fifth day, is probably the least satisfactory. Attention is likewise drawn to the importance of recognising the increase in the relative number of large mononuclear leucocytes in the diagnosis of malaria. The x rays are noted as having no effect on the course of an attack or on the parasites but as having a favourable action on the chronic large spleen. With respect to the various forms of malaria noted, of 8106 cases, 73·78 per cent. were cases of benign tertian, 1·28 per cent. of quartan, 5·00 per cent. of malignant tertian, 0·38 per cent. of malarial cachexia, and 19·56 per cent. were returned as undifferentiated, showing, as is always the case, the relative rarity of the quartan form. With respect to treatment, it was found that quinine when in compressed form frequently passed unchanged through the system, whilst if the drug were administered by intramuscular or hypodermic injection the action was most rapid and powerful. We are glad to see that the authorities are making use of all the measures noted for the prevention of malaria; the patients are isolated whenever possible, wire gauze to the doors of the hospitals and mosquito curtains being used. Four cases of Malta fever were reported

for the year, with no deaths, as contrasted with six admissions with three deaths in 1904.

An excellent summary of the recent investigations as regards enteric fever is given; indeed, the section dealing with this all-important disease in India is one of the most valuable in the report and well repays perusal. Here we find the work of Krencker on the biology of the coli-typhoid group of micro-organisms first referred to; next, the results are alluded to of the campaign against endemic typhoid fever on the south-west frontier of Germany and note is made of the fact that the healthy, or at least the non-specifically sick, can harbour typhoid bacilli and secrete them to the danger of the public. The advantage of the method of blood culture for the early, rapid, and comparatively easy diagnosis of typhoid fever is insisted on. Respecting the vitality of the bacillus typhosus in water, it is shown to be but a short-lived organism in water under natural conditions. The infection by milk and other foods and the infection by contact, immediate or mediate, receive due attention. The part that infected dust and flies play in the propagation of the disease is insisted on, after which the paratyphoid bacilli receive attention. The necessary preventive measures are noted, whilst with regard to inoculation we observe with satisfaction that this practice has resulted in a substantial reduction in the incidence of, and death-rate from, enteric fever amongst the inoculated.

In the section on general remarks we find the work of the Mediterranean Fever Commission, carried on under the supervision of an advisory committee of the Royal Society, duly acknowledged. The work done by the Pasteur Institute at Kasauli is chronicled and due mention is made of the King Institute of Preventive Medicine at Guindy and of the Pasteur Institute for Southern India at Coonoor. We are glad to note that medical officers of both the Services are allowed to proceed to a laboratory for a period of from three to six months for the purpose of prosecuting research already commenced, or for instruction in technique, provided local arrangements can be made for the conduct of routine duties during their absence. In addition to the work at the bacteriological laboratories special inquiries have been commenced with reference to typhoid fever in India, dysentery in gaols and lunatic asylums, and malaria in the Presidency division of Bengal, and the inquiry into the etiology of kala azar has been continued. An important investigation is taking place on the nature of the dysentery that is the most known cause of mortality in Indian prisons, by Captain W. C. H. Forster, I.M.S., whose results will, it is hoped, add to the existing knowledge of one of the most fatal of tropical diseases. This valuable report finally closes with the various appendices relating to meteorology, admission-rates, and so on, of the different diseases amongst the European and native troops, and amongst the gaol population.

The Drink Problem in its Medico-Sociological Aspects. By Fourteen Medical Authorities. Edited by T. N. KELYNACK, M.D. Vict., F.R.C.P. Lond., Honorary Secretary of the Society for the Study of Inebriety, &c. London: Methuen and Co. 1907. Price 7*s.* 6*d.* net.

OF the importance to the community of a careful study of the problem of alcoholic indulgence and of the remedies which are proposed for the evil there can be no possible question. The present volume of 300 pages contains a series of essays by different authors on various aspects of the drink problem. "Each contributor has been allowed a free hand in the presentation of the particular subject allotted and each writer is responsible only for the chapter contributed." So speaks the editor in the preface and thereby lifts a load of responsibility off his own shoulders. He himself contributes an introduction, which is followed by an article by Dr. Harry Campbell on the historical side of the question and on the mode in which habits of excess are initiated. The psychology of the alcoholic subject is dealt with by Dr. T. Claye Shaw and the relation of drink to mental disease by Dr. T. B. Hyslop. Pathology is represented by Professor G. Sims Woodhead. Medico-legal points are discussed by Dr. Stanley B. Atkinson and the public health aspects by Dr. Arthur Newsholme. Mr. W. McAdam Eccles contributes a chapter on Alcohol in Relation to Life Insurance and Dr. Mary A. D. Scharlieb points out its special bearing on the social condition of women and children. Crime and pauperism as produced by alcoholic indulgence are discussed respectively by Dr. W. C. Sullivan and Dr. Ralph H. Crowley; its share in the production of national deterioration is indicated by Dr. Robert Jones. Methods to be adopted for the teaching of temperance form the subject allotted to Dr. E. Claude Taylor, while Dr. V. H. Rutherford, M.P., gives his views on the legislative measures that are required to combat the evil. The articles are necessarily of unequal merit. The most striking is that by Mrs. Scharlieb which breathes a spirit of broad-mindedness and charity conspicuously absent from too much of the writing on the subject of alcoholism. The chapter on legislative measures for the control of the vice is disappointing, the writer even suggesting, apparently, that temperance is impossible so long as there is private ownership of land, whilst most of the paper is full of whirling words rather than of discussion of what is practicable. The editor's final contribution on the Arrest of Alcoholism serves to some extent to make up for the defects of the preceding oration. We do not find any novel light thrown on the problem of alcoholism in this volume. It is, however, a compendium of most of the facts known as to the habit and should form a valuable work of reference for those who are called upon to speak or to write on the subject. References are given to other works on alcoholism from which material is derived.

LIBRARY TABLE.

A Health Reader. By C. E. SHELLY, M.D. Cantab., and E. STENHOUSE, B.Sc. Book II. London: Macmillan and Co. Pp. 96. 1*s.* 4*d.* net.—This book, like its predecessor, is the result of the serious attention that is being given to the teaching of the elementary facts of physiology and hygiene to school children. It is intended for pupils of from ten to 12 years of age, and the simplicity of diction is well suited for such little ones. We are able to give a considerable measure of praise to the body of the book. Anyone who has had the task of teaching medical subjects to a non-scientific audience knows well the difficulty of steering the middle course between explaining too little and attempting to explain too much. This difficulty must be intensified in teaching the elements of such subjects to young children to whom life is still something of a wonderland and who have no inherent conception of the idea of natural law; indeed, to some people it may be a matter of doubt as to whether physiology can be really profitably taught to children quite ignorant of the simplest facts of chemistry and physics, and there is no doubt that lessons such as these would come more readily to a class having some such instruction. The authors, however, have contented themselves with such simple physiological explanations as are necessary for the teaching of the first principles of hygiene and in this they have been so successful that their book will be of real service to those teachers who are empowered to impart such instruction. The pictures are well planned to catch a child's attention.

A Monograph of the Culicidæ or Mosquitoes. Mainly compiled from Collections received at the British Museum. By FRED. V. THEOBALD, M.A. Vol. IV. With 16 plates. London:

Printed by order of the trustees. Pp. 639. Price £1 12s. 6d. net.—The monographs issued under the ægis of the national museum at South Kensington are habitually worthy of the authority of that distinguished institution, and the volume before us is no exception to the rule. As Sir E. Ray Lankester states in his preface, the publication of the first two volumes of the present series in 1901, which formed the first systematic treatise on the Culicidæ, together with the sending of requests to all parts of the world for specimens, has resulted in a rapid increase of knowledge of this family. The rapidity with which the knowledge has been increased is shown by the fact that since the first supplementary volume (Vol. III. of the series) went to press in 1903 no less than 160 new species have been described. The present volume is based on an examination of some half of the 12,000 specimens received at the Museum since 1903. The British Museum trustees have recognised to the full the importance of investigating the various species of blood-sucking insects which may become the carriers of pathogenic parasites and they desire "to obtain as complete collections as possible of blood-sucking insects and arachnids from all parts of the world, with a view to the production of further monographs on such flies, fleas, bugs, lice, ticks, and acarids, as may be the agents in the spread of disease." The director of the Natural History Department invites the sending of further collections of blood-sucking insects and coloured drawings or notes upon their habits to South Kensington. The present volume is a monument of careful study and observation and the illustrations are worthy of the text. The author describes 17 anophelines as certain carriers of malarial parasites and 55 as possible carriers; eight species are responsible for the dissemination of filariasis, and one each for yellow fever and dengue. Mr. Theobald very rightly deprecates the complication of an already too confused nomenclature by the naming of new species on the sole authority of local colour variations. The work is to be completed in a further volume. It is good to see such a monograph issued from a London press as will be indispensable to foreign workers in an important field.

The American Medical Directory. Chicago: Published under the official auspices of the American Medical Association. Pp. 1482. Price 35s. net.—The compilation of a directory dealing with so large a body of men as the medical profession must afford a task of great labour in so compact a country as our own; the performance of such a duty for so scattered an area as the United States is a task that probably only those diligent persons who have been engaged upon it can adequately appreciate. The present work contains, in addition to the official list of legally qualified practitioners in the United States, complete information regarding the laws regulating the practice of medicine and particulars as to the constitution of the State boards of health and the medical examining boards and colleges. It is somewhat curious to British eyes to see certain of the names followed by initials which indicate that their owners belong to the cult of "Homeopaths" or "Eclectics" respectively; there is an archaic flavour about the latter title which is at pleasing variance with our notions of American cast-iron modernity. The book is well printed and we do not doubt will form an indispensable work of reference to all who are interested in American medicine. The information concerning the laws controlling practice in the individual States is very valuable.

MAGAZINES AND JOURNALS.

The Edinburgh Medical Journal.—A good deal of attention has recently been directed to the question as to the value of preparations of formic acid in the treatment of disease. An article in the June number of this magazine, written by Dr. Claude B. Ker and Dr. David H. Croom, on the use of formic acid in diphtheria, concludes with the expression of opinion that the results obtained in the direction of warding off cardiac failure are distinctly encouraging. Mr. W. H. Battle writes on traumatic rupture of the intestine and insists on the importance of early operation; and Mr. Alexander Don emphasises the value of x ray examination in the diagnosis of tuberculosis of bones. An interesting note upon the application of Bier's treatment by passive congestion to acute inflammations, written by Mr. D. M. Barcroft, calls attention to the value of a procedure that is perhaps not sufficiently practised in this country: in gonorrhœal affections of joints it would appear to be almost a specific, and it is available in many other conditions.

The Scottish Medical and Surgical Journal.—The June number of this journal opens with an article by Dr. C. J. Lewis upon the influence of meteorological conditions on the distribution of bacteria in urban atmospheres. The author shows the value of rain in purifying the air and also the contrary influence of high atmospheric pressure in increasing the number of organisms present. Dr. Claude B. Ker writes in praise of intubation in diphtheria, especially if used in connexion with nasal feeding, and Dr. W. T. Ritchie describes and discusses the various forms in which an extra systole of the heart may take place.

The Dublin Journal of Medical Science.—Dr. G. A. Gibson's learned account of our debt to Ireland in the study of the circulation is concluded in the June number. The present instalment deals with the importance of physiological incompetence of the right auriculo-ventricular valve and with some modern studies on the subject of heart block. Dr. W. G. Harnett writes on early diagnosis of perforation of a gastric ulcer and Dr. C. H. McComas notes some practical points in the study of disease in infants.

The Medical Chronicle.—Two articles of more than ordinary interest appear in the June number of this magazine. Dr. W. B. Heywood contributes an abstract of a thesis dealing with the subject of albuminuria in adolescents. He analyses much recent literature and records some observations of his own on the albuminuria which follows scarlet fever. He concludes that about 50 per cent. of children who suffer from this disease pass urine containing some albumin and that this condition may persist for some years. Most of the cases seem to recover ultimately. Dr. Frank E. Tylecote discusses the symptoms of meningism or transient meningeal irritation and its diagnosis from meningitis proper. He also considers the information to be obtained from lumbar puncture in such cases and the causes of improvement following this procedure, but comes to no certain conclusion on this last point. Mr. Philip R. Wrigley records a case of strangulation of the vermiform appendix in a hernial sac.

New Inventions.

MODIFICATION OF BARTRINA'S PROSTATIC CATHETER.

HAVING a case of left lateral hypertrophy of the prostate necessitating the routine use of a catheter, and finding that ordinary catheters, à boule and coudé, were passed with difficulty and were apt to draw blood, I tried the catheter devised for such cases by Dr. J. M. Bartrina of Madrid, an account of which is given in THE LANCET of May 16th, 1903. This instrument is oval in section, with the long diameter vertical, O, and the beak is curved on the *edge*. I did not find this catheter to pass more easily than the others and noticed that immediately it entered the urethra it turned in my hand to the extent of a quarter of a circle, thus deflecting the beak to the same extent. The cause of this deflection is obvious when one considers the anatomical fact that, although the meatus urinarius is a vertical slit, I, the urethra itself in its entire length,

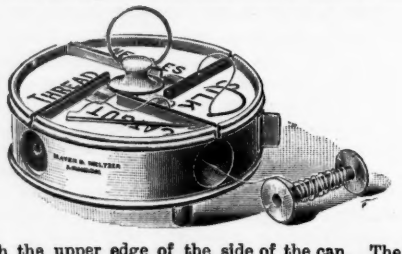
including the prostatic portion, is a tube having its walls in contact and presenting on section a transverse slit, —, the prostatic portion being somewhat curved with the convexity upward, ⌒. Believing, however, that an oval instrument might well possess an advantage over a round one, provided the long diameter of the oval was transverse instead of vertical, I had catheters specially made for me in France by the courtesy of Messrs. Allen and Hanburys. On trying one of these in my case I found it was passed with perfect ease, both by myself and my patient who volunteered the opinion that he had never passed a catheter so easily and comfortably, nor did it cause bleeding. The catheter, thus modified, is of elastic gum, silk web, coudé, oval, flattened transversely, ○, with the beak curved on the *flat*.

It may be had in 11 sizes (12–22) from Messrs. Allen and Hanburys, Wigmore-street, W.

Driffield, East Yorks. A. T. BRAND, M.D., C.M. Aberd.

AN APPARATUS FOR STERILISING SUTURES, LIGATURES, AND NEEDLES.

THE apparatus shown in the accompanying illustration was exhibited at the Australasian Medical Congress held in Adelaide in October, 1906, and attracted favourable notice. My aim has been to design an apparatus in which the sutures, ligatures, and needles could be sterilised simultaneously either in boiling water or by steam, so as to be fit and ready for use in the surgeon's instrument tray and be handled by him only. The apparatus has been used by me at all my operations during the last six months and it fulfils its purpose admirably. The structure consists of two parts, an outer part and an inner part. The outer part is a cylindrical copper dish six inches in diameter and one and three-quarter inches deep. The bottom is perforated by a small central hole and three slots. Four holes, three quarters of an inch in diameter and equidistant, are cut in the side of the can. From the centre of the upper border of each of these holes a slot one-eighth of an inch wide is cut and extends



through the upper edge of the side of the can. The inner part is also a flat cylinder of copper. Attached to the bottom are three legs half an inch in length, and these extend through the slots cut in the floor of the outer part. The top is divided into four compartments into which exactly fit four pieces of white opal glass. These are held in place by a central screw with a ring attached. The sides of both parts are perforated by four circular holes three-quarters of an inch in diameter. From these openings four small cylinders, two and a half inches long and three-quarters of an inch in diameter, extend to the centre of the inner part. The sides of these cylinders are so bent that they are brought out through the top of the inner part and form four radiating slots, thus dividing the top into the four compartments previously mentioned. By means of a small flange the outer part can be made to revolve round the inner for a distance of three-quarters of an inch, the legs on the inner, which work in the slots on the bottom of the outer, acting as stops. Thus, when the lateral openings of both parts coincide the small cylinders are open and when the outer is made to revolve round the inner they are shut.

The apparatus is used in the following way. The small cylinders being open, metal or glass reels on which the ligature and suture material is wound are inserted into them, the loose end of the material (silk, thread, &c.) is brought through the slot in the side of the outer part and thus comes to lie in the long narrow slot in the top of the inner. The loose end is then threaded on any needle the surgeon wishes and the needle laid down in one of the compartments. The thread on each reel may be similarly threaded. Usually, however, I only have two of the needles threaded and extra needles are placed in one of the compartments. The other two reels are then used for ligatures only. The ends of the cylinders are now closed and the apparatus is ready for sterilising. This can be done by boiling it or putting it in a small kettle and sterilising it by steam. After this it is placed in the instrument tray. Should the surgeon use catgut, reels with this material wound on them are now inserted into the cylinders, for, of course, catgut does not stand boiling or steam sterilisation. Whatever material is used, the reels revolve easily in the cylinders and the ligatures, sutures, &c., are cut off by the surgeon as he requires them. It is often useful to have two or three needles on one thread. The needle closest to the loose end is held by its eye between the right forefinger and thumb to prevent the thread slipping out, which is then drawn through the eyes of the remaining needles held between the left forefinger and thumb and cut off at the required length. These remain threaded for the next suture that may be required. My needles are always kept in lysol between operations and do not rust when sterilised in this apparatus. I do not allow instruments, needles, ligatures, &c., to be touched by anyone but myself or my assistant. By means of this apparatus all ligatures, sutures, and needles are ready for use when I start to operate, much time is saved, and an additional pair of hands and a source of infection are dispensed with. It can be made of any size and, if desired, the number of small cylinders and compartments increased. The opal glass is marked "silk," "catgut," "needles," &c., to enable each kind of material to be kept in its own proper compartment. The apparatus is nickel-plated throughout and is easily taken to pieces and cleaned.

Messrs. Meyer and Meltzer, of London and Melbourne, and Messrs. Fischer, of Adelaide, have carried out my design admirably.

H. SIMPSON NEWLAND, M.S. Adel., F.R.C.S. Eng.,
Assistant Surgeon, Adelaide Children's Hospital;
late Surgical Registrar, London Hospital.

Looking Back.

FROM

THE LANCET, *SATURDAY*, July 4th, 1829.

PRESERVATION OF THE ERGOT OF RYE.

To the Editor of THE LANCET.

SIR,—If a small piece of camphor be put into a bottle, containing ergot of rye, reduced to a fine powder, the peculiar properties of this invaluable remedy will be retained, unimpaired, for a considerable length of time, two or three years at least.

As I am not aware that this fact is generally known, I shall feel obliged by your honouring it with a place in the columns of your very valuable and talented Journal.

I remain, Sir,
Your obedient Servant,
S. F. G.

38, Manchester Street,
Manchester Square.

NEW FOOD AT THE FRENCH HOSPITALS.

THE use of gelatine from bones is becoming very general in the French hospitals as an article of diet. In La Charité, upwards of a thousand rations a day are produced by means of a steam apparatus. The patients are said to approve of it much, as it is made very pure, and may be flavoured in any way that is wished.—*Lit. Gaz.*

DEATH FROM ELECTRIC SHOCK.—The *Electrical Engineer* of June 28th gives some particulars of a case in which a man was killed in a Fifeshire colliery through coming in contact with a wire rope which was attached to a cable connected with an electric coal-cutter. Electrical engineering experts from various parts of the country were present to give evidence. The vulcanised shield of the cable entering the motor casing had become worn through, thus allowing the live wire to come into contact with the metal of the machine casing and thereby charging the whole machinery. It was stated that an accident of the kind had never before happened in a similar way.

THE LANCET.

LONDON: SATURDAY, JULY 6, 1907.

The Imperial Cancer Research Fund: Fifth Annual Report.

FIVE years have now elapsed since the foundation of the Imperial Cancer Research Fund and though no definite information has been obtained either as to the etiology or the treatment of cancer, yet much good and useful work has been accomplished and our general knowledge of the distribution and the laws of growth of malignant disease has been advanced. In many parts of the world there is great activity in cancer research and Dr. E. F. BASHFORD, the superintendent of the Research Fund, has done well to keep himself in touch with the more important of the movements. He attended by invitation the Toronto meeting of the British Medical Association and took part in a discussion on the subject of cancer; and subsequently he visited many of the laboratories in the United States, including the Rockefeller Institute, in which cancer investigations are being carried on. Later Dr. BASHFORD was present, as the representative of the Imperial Cancer Research Fund, at the International Cancer Congress held in Heidelberg and Frankfort. Some of the German representatives of this Congress have lately proposed the establishment of a permanent international conference on cancer with its headquarters in Berlin. On the whole we are inclined to agree with Dr. BASHFORD that at present little advantage is to be gained by such a conference and that more good will be attained by encouraging active intercourse and exchange of material between investigators who are studying cancer in the laboratories of different countries. This interchange of material is of great importance and we are glad to learn that the Imperial Cancer Research Fund has provided material for investigation to numerous other workers both in this country and abroad.

Our chief hopes of the attainment of an exact knowledge of cancer depend, it is generally acknowledged, on experimental investigations. Statistics have done their share and it is probably useless to expect that very much more information of importance will be obtained from these. Statistics, however, have given us some striking facts, the true meaning of which will be known only when the problem of the etiology of malignant disease has been solved. It is certain that some allowance must be made for want of accuracy in all statistics but even when more than enough allowance has been made for this source of fallacy we find many strange facts which must be of great importance. For instance, we find that of 1589 cases of malignant disease reported from India, only in 76 cases did the growth affect internal organs, while in 1513 cases the surface of the body was the part involved. It is clear from even a moment's consideration that this fact points to a cause coming from outside and in most cases not entering the body with the food. We learn further that in 335 persons afflicted with cancer the diet was vegetarian and in 608 persons the diet was mixed but flesh for the most part. It is obvious, however, that these facts tell us little, for we are not told what was the relative proportion of vegetarians and those using a mixed diet, and therefore the figures are useless. It is of interest to note that by statistics we learn that the incidence of cancer, as recorded for different sites of the body, varies, so that in some parts of the world malignant disease is especially liable to attack special regions of the body; for instance, in the native races of Africa melanotic sarcoma appears to be especially frequent and it always attacks the soles of the feet. This fact points strongly to some cause arising from the ground and attacking the bare feet of the natives. In India, as we have already stated, the surface of the body seems to be especially liable to be attacked and in Kashmir epithelioma of the anterior abdominal wall occurs with a constancy met with nowhere else. Peculiar forms of chronic local irritation met with in native races associated with native customs or religious rites are reported to affect those portions of the body which correspond to the sites on which the majority of cancers occur. These are analogous to the chimney-sweep's cancer and the paraffin and x ray cancers seen in this country. In some cases the damage to the part predisposing to the occurrence of malignant disease has been caused by a specific inflammatory condition, as may be seen in lupus and in some forms of leucoplakia of the tongue. Inasmuch as no one form of external irritant is constantly associated with the development of cancer, it is clear that the mere irritation is nothing more than a preparation for the development of malignant disease. It is evident that some intracellular change occurs which transforms a normal cell into a cancerous cell. As to what this change is we know nothing at present and in our attainment to a knowledge of that change lies our hope of a knowledge of the true etiology of malignant disease.

It will be of interest to take a brief glance at the chief experimental work on mice that has been done in the laboratories of the Imperial Cancer Research Fund. During the year 48 additional spontaneous tumours in mice have been added to those previously studied and in all 40 tumours have been successfully propagated from mouse to mouse, and among these are two fresh groups—namely, certain carcinomata of the mamma with a great tendency to hæmorrhage and certain squamous-celled carcinomata. The hæmorrhagic carcinomata are the most frequent form of cancer in the mouse and Dr. MURRAY, Dr. MAGNUS HAALAND, and Mr. W. H. BOWEN have been very successful in propagating them, though other investigators have failed. The squamous-celled carcinomata are of especial interest, for there can be no doubt that they are true carcinomata and thus the doubts which were expressed as to the carcinomatous nature of propagated tumours are completely dispelled. The results of the propagation of JENSEN'S tumours met with much opposition, as it was asserted that they were not genuine cancers. In all these transferred tumours there are seen the same alternations of periods of exacerbation and remission as occur in cancerous human beings. At times the growth is rapid and anon it seems as if all growth has ceased

and even some of the tumour already formed disappears. All who have had much experience of carcinoma in man will agree that these variations in the growth of cancers occur quite apart from any method of treatment adopted and it is this lack of uniformity in the progress of malignant new growths that is mainly responsible for the curative reputation of many drugs. In propagated cancers in mice there is marked variation in the degree of proliferation and while in some cases the proliferation is greater than is ever seen in spontaneous cancers, in others the rate of growth hardly exceeds that of normal tissue. Attempts to cultivate tumour cells outside the body, even when the organic fluids of the mouse have been employed, have proved fruitless and it is only in the responsive living environment of the mouse's body that the vitality and peculiar energies of the tumour cells manifest themselves. The favourable conditions for growth presented by normal mice can be altered to the disadvantage of the tumour cells, so that they are unable to proliferate. The soil can be rendered unsuitable for the growth of transplanted tumour cells in many ways: as when a mouse has recovered from a previous successful inoculation of cancer tissue of its own species, or when previous inoculation has not been successful but has led to the absorption of cancerous tissue, or after the previous inoculation of the blood of a normal mouse. Some infective diseases also hinder the growth of inoculated cancer tissue. The protection produced by the spontaneous absorption of tumours, which had grown for a time, is most efficient against inoculations of tumours of the same strain as that which had been absorbed; it is less for tumours of different strains and may even be wanting. As to the mechanism of the protection we are in doubt but the fact that the protection produced by mouse cancer and mouse tissue is not produced by cancer or tissue of other species of animals shows that the cells implicated are mouse cells, having nothing in common with the cells of cancers of other animals except their mode of growth. Satisfactory evidence is still wanting of the existence in the serum of protected animals of substances directly harmful to the cancer cell. Many "cancer cures" have been tested during the past year; unfortunately it has proved impossible to attribute any curative value to even one of them, in so far at least as regards the inoculated carcinomata of mice. We are glad to see that the financial aspect of the Fund is much more satisfactory than when we reviewed the progress of its work last year. Then we had to deplore the fact that almost from its foundation the annual receipts of the Fund had not sufficed to meet the annual expenses. During the past year not only have the receipts exceeded by £1200 the receipts of the preceding year, but a munificent donation of £40,000 has been received from Mr. and Mrs. BISCHOFFSHEIM. The amount is invested and the dividends are to be applied to the general work of the research. This is not the first donation from this source, for at its beginning Mr. BISCHOFFSHEIM gave £5000 to the Fund. With such happy auguries for the financial success of the Imperial Cancer Research Fund we cannot doubt that the Fund will be able to carry on the good work of research and though it is impossible to foretell how soon the mysteries of cancer will be revealed we shall feel that all that is possible is being done to bring to light the secrets of malignancy.

The Annual Report of the Council of the Coroners' Society.

THE report of the council of the Coroners' Society for the year 1906–07 lies before us and if it contains matter primarily intended for the perusal and the guidance of the coroners for whose benefit it is issued there is little in it which might not be read with advantage by all members of the Government or of the Houses of Parliament desirous to promote useful legislation in the public interest. The work of the coroner, in deciding whether an inquest shall be held upon a body lying within his jurisdiction, and in the proper conduct of the inquest, including the obtaining of necessary evidence, is in the main regulated by a statute passed 20 years ago. Other Acts since the Coroners Act, 1887, may have increased the number of cases to be inquired into but have done so without rendering more explicit the vague definitions and scanty directions of the original Act which was based upon predecessors passed when medical science and the activity of the police were alike undeveloped, when the protection of the worker at his work had not exercised the minds of the benevolent to any considerable extent, when the importance of accurate statistics concerning the causes of mortality was not realised, and when it was only thought necessary to sketch in outline the functions of an official whose ancient powers and importance had been considerably curtailed. The coroner is not a judge whose decisions are liable to constant discussion and revision in the High Court of Justice but his position is not on that account a bed of roses. In the fulfilment of his duties he is naturally exposed to the hostility of individuals, honest and dishonest, or he may incur the disapproval of the local authority responsible financially for his disbursements. At any time his acts or omissions in the exercise of his duties may be brought to the notice of the Lord Chancellor or of the Home Secretary; and whether he has done rightly or has fallen into one of those errors to which all are liable in the exercise of a vaguely defined discretion, the affair will probably cause him considerable trouble and anxiety. For his guidance in matters upon which he is unable to obtain the direction of the Secretary of State the Coroners' Society will supply a member in doubt with a useful opinion based upon the experience of others and upon authorities which may be beyond his reach. The report to which we have referred contains many examples of opinions thus given which, as has been suggested, not only elucidate the points at issue but which also illustrate the need for a new and comprehensive Coroners Act. The unsatisfactory nature, for example, of the clause which defines the occasions on which inquests should be held is shown by many examples, including the suggestion that its strict interpretation might have led to an inquest being held upon any of the bodies brought over to England for burial after the recent terrible wreck of the *Berlin* or upon a body similarly transported home after a fatal accident in the Alps.

Again, when a single accident produces many deaths the question how many "inquests" are to be held is of importance in regard to the exact procedure to be adopted, and the results of such an accident may again be complicated for the coroners concerned if, through the occurrence taking place on the confines of one or more districts, bodies

requiring inquests lie within different jurisdictions. The practice to be adopted on such occasions may be suggested by the law officers of the Crown advising the Home Office or by the council of the Coroners' Society but does not have its origin in any prevision on the part of the legislature. The dispute arising with regard to the holding of post-mortem examinations in a coroner's district in London has been frequently referred to in these columns. It illustrates in a striking manner the looseness and insufficiency of the sections providing for medical evidence in the present Act. One of the undecided points connected with the calling of medical witnesses at inquests, to which the report under consideration gives some prominence but upon which it finds a difficulty in pronouncing an opinion with confidence, arises out of the following conditions of frequent occurrence. A medical witness is summoned by the coroner to give evidence as to the cause of a death, which does not need for its elucidation more than the external inspection of the cadaver without examination of the internal organs or of the brain. The medical man may be desired to make such an inspection by the coroner or he may do so from a conscientious desire to qualify himself fully for the giving of his evidence. Should he then be entitled to a fee of two guineas provided by the Act for a "post-mortem examination" or only to the guinea of the ordinary medical witness? According to the advice given by the council of the Coroners' Society an external inspection of the body is not a post-mortem examination within the meaning of the Act, even when ordered by the coroner. The report is careful to point out how doubtful the question is and to suggest the necessity for tact and discretion to avoid disputes on the subject and a possible deadlock. Looking at it from the point of view of the medical man we should be inclined to differ from the view expressed and to say that the coroner ordering an examination with a view to obtain the best evidence of the cause of death should be taken to require as thorough an inspection as the case may demand, and that the question of how complete that examination should be is one which ought to be decided according to the facts of a particular case and as to which the medical witness and the coroner should be in accord. The external examination may, when properly made, be an unpleasant or a dangerous task and the examination of internal organs may be comparatively simple and free from disagreeable or dangerous circumstances. In other words, in the case of either form of examination the medical man will have a responsible professional duty allotted to him, which may be ill-remunerated by a fee of two guineas or may not. He has to "take the rough with the smooth," and those who employ him should not grumble at being obliged to do the same. The term "post-mortem examination" has not been defined or limited by the Act and to say that it may be taken to imply such an examination of a dead body as may be desirable in order to place the cause of death beyond doubt involves no straining of its natural meaning. Another important question referred to the Coroners' Society by its members during the past 12 months has arisen out of the scheduling of a number of industrial diseases as accidents under the new Workmen's Compensation Act. The council of the society is of opinion that the coroner informed of a case within his jurisdiction where death is ascribed to one of these diseases will act rightly in holding an inquest.

Naturally the questions propounded for the consideration of the council of the Coroners' Society are not all of as general interest as some of those which we have mentioned, nor are they as difficult of solution. Clearly a right answer could be given without hesitation to an inquiry as to the course to be adopted when there was the evidence of a few remains of bones, buttons, and buckles, to show that someone, probably an unidentifiable tramp, had met with his death in a cement kiln, into which presumably he had crawled for warmth and shelter. There can be no doubt that, although the coroner may not have "the dead body of a person" before him in such a collection of relics, he would be extremely unwise to decline to hold an inquest. Again, to take another instance, a deceased person had evidently died through injuries sustained by violence more than a year and a day before his death and the coroner had doubts as to what he should do. The correct, and at the same time obvious, reply was to the effect that although the period which had elapsed might save the guilty person from trial on the capital charge, the duty to inquire into the cause of a death credibly stated to be unnatural and violent was not affected thereby. Many other points of varying interest and importance are touched on in the report before us but enough examples have been given to show that difficulties are likely to perplex coroners (who by the nature of their work have already enough to occupy their thoughts) and to cause friction between them and the local authorities, or the medical profession, or the public, all or most of which might justly be removed by a carefully considered and clearly drafted Act of Parliament. Such an Act might also simplify the coroner's duties in respect of such quaint survivals as inquests upon treasure trove and might introdnce a uniform system of inquiry into causes of fire not resulting in death. If it is considered that investigations should be held in the case of fires occurring in the City of London it can hardly be contended that they would be undesirable elsewhere, although possibly a better manner of conducting them might be devised. The duties of coroners, however, so far as inquests upon dead bodies are concerned, are almost indissolubly connected with the whole matter of death registration and burial, so that fresh legislation with regard to the one cannot be satisfactory unless it is undertaken in conjunction with corresponding reform in respect of the other.

The Bacillus Paralyticans and General Paralysis of the Insane.

THAT the intelligent and successful treatment of any given disease is absolutely dependent upon a correct appreciation of its associated pathological processes and particularly of its ultimate etiological factor may be stated as a fundamental principle which is well illustrated by that condition known as general paralysis of the insane, for despite the many years during which the disease has been familiar to

the neurologist, has been diagnosed, and studied, its average duration remains about two years from the onset of symptoms, and of curative treatment there is none. In such circumstances Dr. W. FORD ROBERTSON'S investigations into the bacteriology of general paralysis are deserving of the warmest praise but the importance of the subject demands that his experiments and the conclusions drawn from them should be subjected to the most rigid scrutiny. We therefore note with satisfaction the representative audience which assembled at the last quarterly meeting of the Medico-Psychological Association when Dr. FORD ROBERTSON, in conjunction with his junior colleague, Dr. G. DOUGLAS MCRAE, presented a communication on Further Bacteriological and Experimental Investigations into the Pathology of General Paralysis. The substance of this paper may be briefly summarised.

A number of strains of diphtheroid bacilli, all "Neisser-positive," which had been isolated from cases of general paralysis or of tabes dorsalis, were tested as to their fermentative activities in various carbohydrate media. By means of their several reactions these bacilli were differentiated into two distinct species, named respectively bacillus paralyticans longus and bacillus paralyticans brevis, and to them severally and collectively Dr. FORD ROBERTSON and Dr. MCRAE ascribed specific pathogenic properties. Each of these species was in some instances virulent for the mouse but never for the guinea-pig; while by the prolonged feeding of rats with cultivations of these bacilli symptoms and lesions similar to those of general paralysis of the insane were produced in the rodents. Discussing the question of the portal of entry Dr. FORD ROBERTSON and Dr. MCRAE distinguish between general paralysis of the insane, in which the infective focus is situated in the buccal and naso-pharyngeal mucosæ, and tabes dorsalis, where the point of invasion is the whole of the genito-urinary tract and the lower part of the alimentary canal; and they affirm that in these situations they have obtained evidence of actual tissue invasion, as opposed to mere contact, by these particular bacilli. Reference was also made to the immunisation of the sheep to the bacillus paralyticans and to the associated rise in the phagocytic index of the serum observed during the process. In the discussion which followed, and in which some well-known bacteriologists as well as clinicians took part, the opinion was almost universally expressed that although the disease was in all probability primarily a toxæmia, yet the evidence adduced by Dr. FORD ROBERTSON and his colleague was insufficient to justify the claim to specificity advanced on behalf of the bacillus paralyticans, or even to demonstrate the bacterial origin of the toxin. Indeed, one observer, Dr. GEORGE M. ROBERTSON, who detailed some experiments supporting Dr. FORD ROBERTSON'S original statements that a diphtheroid bacillus was invariably present in general paralysis, stated that he had now observed this association in nine out of ten cases examined in the Stirling District Asylum—the organism being isolated from the peripheral blood in no less than seven cases—but that in no case was the organism isolated identical with bacillus paralyticans. Then, too, those criteria of specificity advocated by our own countryman, HENLE, but more generally referred to as the "postulates of KOCH" were freely invoked by many of the speakers, and the observations of EYRE and FLASHMAN recorded a few years back, which showed that the presence of diphtheroid bacilli in the buccal and naso-pharyngeal mucosæ was not peculiar to the general paralytic but could be observed in similar situations in patients suffering from other nervous lesions and in the sane, were referred to; and it was pointed out that diphtheroid bacilli were fairly common saprophytes; were found in some articles of food, e.g., milk, and in numerous situations on and in the body, in health as well as in disease, particularly in the genito-urinary tract; and were frequently encountered in morbid material side by side with micro-organisms which were of themselves capable of producing the special lesions with which they were associated.

This ubiquity of diphtheroid bacilli, many of which are indistinguishable from the organisms isolated by Dr. FORD ROBERTSON, actively militates against their suggested possession of pathogenetic properties, and in this connexion it may be remarked that even tissue invasion by purely saprophytic bacteria is not unknown and we might instance the condition known as xerosis conjunctivæ where diphtheroid bacilli undoubtedly invade the membrane and may be demonstrated in sections throughout the entire thickness of the altered conjunctiva, but in spite of this fact it is now generally conceded that the xerosis bacillus plays no part in the causation of the affection. Again, it is assumed by Dr. FORD ROBERTSON that the elaboration of bacteriolytic substances in response to the introduction of cultivations of bacillus paralyticans into the animal body necessarily denotes the possession of pathogenetic properties by that bacillus, regardless of the fact that inoculation with practically any and every bacterium, virulent or harmless, will stimulate the formation of special antibodies. Enough has been said to indicate the present open-minded attitude of the profession towards these researches and we have no doubt that Dr. FORD ROBERTSON will be stimulated thereby to further investigations directed possibly in the first instance towards the removal of the objections now urged.

King Edward's Hospital Fund for London.

THE Bill for the incorporation of King EDWARD'S Hospital Fund for London was ordered for third reading on Monday last, July 1st, in the House of Commons, after a debate of the greatest interest to the public at large as well as to all hospital authorities and to the medical profession. The debate turned largely upon the proper constitution of the Council of the Fund. It will be remembered that the original Bill provided that His Royal Highness the PRINCE of WALES should continue the position of President of the Fund in the position of President of the corporation during the pleasure of the Sovereign, and that every succeeding President should be appointed and hold office during the pleasure of the Sovereign, the whole management of the corporation thus remaining with the President, or through him with the Sovereign. The direction, control, and management of the affairs of the corporation and the application of all moneys, property, and income

were to be vested in the President who had unlimited powers to appoint and to remove at pleasure all officers and members of the council, to vary and to rescind all regulations and by-laws, and "generally to do or direct to be done all acts and things which in his discretion he might deem conducive to promoting and effecting the objects of the Corporation." As soon as the text of this Bill came into our hands we pointed out that, while we were in absolute accord with the high respect for the throne and for the wise and enlightened monarch now ruling over us, shown throughout the Bill, we considered that this respect might have been evinced without casting upon the occupant of the throne responsibilities which in conceivable circumstances might be most heavy and irksome. We made the obvious point that our present Sovereign succeeded as a man of mature judgment, with wide and cultivated sympathies, and with a knowledge of men and things which would have won for him high distinction in whatever position fate had placed him; and we realise with alacrity that in his heir the citizens of the British Empire must feel that they possess one worthy to discharge the tremendous task that in the course of nature will devolve upon him. But we have felt ever since the Bill for the incorporation of the Fund was first made public that, although future Sovereigns might be expected to emulate the example of His Majesty the KING and of His Royal Highness the PRINCE of WALES by bringing to the conduct of public affairs the same intelligence, fairness, and assiduity, this supposition must not be treated as a certainty. We also considered that it was not fair to leave the President or the Sovereign, independent of all assistance, to exercise an unfettered judgment in matters always difficult and liable at any moment to become complicated or technical. This view was independently expressed by the British Medical Association and largely indorsed by the lay press. As might be expected, it has been met with absolute and gracious approval by the illustrious persons concerned, and valuable concessions have accordingly been made.

On the order for the consideration of the Bill Dr. V. H. RUTHERFORD, the Member for the Brentford division of Middlesex, moved the recommittal of the Bill with an instruction that clauses should be inserted providing for the constitution of a council for the Fund upon representative lines. The honourable Member suggested that the public requirements would be met if the elected members represented one from the City of London, one from the London County Council, one from the University of London, one each from the Royal Colleges, two from the British Medical Association, and one each from the Metropolitan Hospital Sunday Fund, the Hospital Saturday Fund, and the Central Hospital Council. The amendment embodied a view which we had already advocated—the view that the contribution of the medical profession to the efficiency of the hospitals and to the carrying out of their work should be reckoned side by side with, and in combination with, the support of the ever-generous public. But Dr. RUTHERFORD'S arguments did not find favour with the House nor were all those who supported him, among whom none of our medical legislators were to be found, happy in their words or able to discuss the question from any broad scientific position. The Attorney-General, in reply to Dr. RUTHERFORD'S contention, pointed out to the House the extent to which the constitution had already been altered from the point of view of safeguarding public interests, and speeches by the Prime Minister, by Mr. BALFOUR, and by Sir WILLIAM COLLINS made the withdrawal of the amendment a certainty. The Attorney-General explained that a provision had already been introduced that on the termination of the tenure of office by the present President it would be necessary for the Lord Chancellor, the Prime Minister, and the Governor of the Bank of England for the time being to concur in the recommendation of some member of the Royal Family whom they considered qualified to accept the post now occupied by the PRINCE of WALES, the member of the Royal Family being the son, grandson, or brother of the Sovereign. There is therefore assurance that three persons holding high and responsible public positions must be united in recommending a qualified President, while if they do not concur the duties of President will devolve into the hands of three persons; there would no longer be a President but three governors. Sir LAWSON WALTON went on to show that since the Bill had left committee an important clause had been added limiting the individual power of the President so that on his own part and on his own authority he could not deal with the distribution, investment, or application of the property. He would be controlled by the majority of his council in all matters relating to the investment, expenditure, application, and distribution of money. The speaker added, amidst the cheers of the House, that while the power of the President would thus be limited on his own motion to the collection of money, the name of the Royal Family would be connected with the appeal to the public for funds, and that it was this association which had created the Fund and given to it its magnificent success. He considered that in any scheme for hospital management there would inevitably be a large representation of the medical element, and, of course, at the present moment medical men of the greatest eminence are upon the Council of the Fund. He evidently saw difficulty, also, in the way of securing representation of the various London hospitals upon the body which would distribute money annually to these hospitals—a point made later by Sir WILLIAM COLLINS. Although we do not consider that this difficulty would really be very great, we realise the advantages of not fettering a young institution with too strict and complicated a constitution. It has to be remembered that what is done by statute can only be undone by statute.

The Prime Minister followed upon the same lines of general approval of the Bill as amended in committee. He pointed out the conspicuous success of the Fund, which has distributed money at the rate of £100,000 a year, with a percentage of expenses of 1·35 per cent. He emphasised the representative character of the existing Council and his belief that there would always be a desire to place upon the Council persons similarly qualified to give the best advice to the President. He added that a further concession would be made to the desire that the financial control of the Fund should be above all reproach, and he gave notice of an amendment that the accounts of the

Fund should be annually audited by an auditor nominated by the President of the Local Government Board, the Board to fix his remuneration. Mr. BALFOUR hoped that the speech of the Prime Minister would enable the House to come to a unanimous vote and alluded to the fact that Dr. RUTHERFORD'S amendment asking for a small representation of the medical profession had received its chief support from a Member of the House who evinced distrust of that profession. This was unfortunately the case and, taken with the absence of backing from the medical members of the House, doomed Dr. RUTHERFORD'S amendment to failure. The wish of the House was unmistakeable that, at present at any rate, the medical profession should not have statutory powers of representation upon the Council. In the circumstances we would ask the medical profession to believe that the Council of King Edward's Hospital Fund for London will discharge its duties in advising the Sovereign or the President, in the future as in the past, with every regard for our profession. By its increased powers this Council has become a public guarantee of the sound financial control of the Fund, and the representation of the medical profession which now exists in its body may be reasonably expected to continue.

Annotations.

"Ne quid nimis."

PRESENTATION OF THE FREEDOM OF THE CITY OF LONDON TO LORD LISTER.

ON June 28th the City of London honoured Lord Lister and her own freemen by entering upon the roll of that distinguished company the name of Lord Lister. It was a matter of congratulation that the council was able to make such arrangements as enabled the illustrious surgeon, though in a weak state of health, to attend in order to be presented personally with the freedom. He was welcomed by a distinguished gathering which included many well-known names in medicine and surgery and representatives of all the chief official bodies of the profession. The freedom was presented in a golden casket of extreme beauty, the official words with which the honour was conferred being: "In recognition of his eminence as a surgeon, and of the invaluable services rendered to humanity by his discovery of the antiseptic system of treatment in surgery, whereby so great a progress in medical science has been achieved, so much suffering has been alleviated, and so many valuable lives have been prolonged." The whole proceedings were marked with the greatest enthusiasm and the honour done to our famous leader must be felt by all members of the medical profession as one done to ourselves, our calling, and our aspirations. This note was struck in the opening sentence employed by the City Chamberlain, Sir Joseph Dimsdale, in the address admitting Lord Lister to the freedom, when he recalled the fact that in 1803 the same honour was paid to Dr. Edward Jenner, "whose name would ever be associated with the discovery of vaccination and whose researches superseded the system of inoculation successfully employed a century ago by Dr. Fothergill and Dr. Dimsdale" (the latter, we believe, being the speaker's eminent relative). Sir Joseph Dimsdale proceeded to deliver an eloquent summary of the blessings to mankind that had followed upon the new era of surgery heralded by Lord Lister's discoveries and their practical application. To medical men this is an old story, but, like some of the beautiful stories of our Scriptures, we do not weary of the repetition. It gives us a sense of the grandeur of our avocation to feel that one of us, by the application of genius and prescience, by untiring industry, and by the bravest powers of self-criticism, should have been able to alter, and to alter radically, the existing relation of man to suffering and of life to death over the whole world. Never has the freedom of the City of London been more rightly bestowed, never has the foremost civic power in the world more honoured itself in honouring a new adherent.

THE WORKMEN'S COMPENSATION ACT: MEDICAL MEN AND THE BOROUGH COUNCIL OF WESTMINSTER.

WE have before us a report made to the borough council of Westminster by a joint sub-committee of its works and highways committee dealing with the best method of meeting the council's responsibility for its injured and sick workmen with special reference to the Workmen's Compensation Act. Whilst sympathising with any municipal effort to keep down the expenditure of the ratepayers' money, we cannot congratulate the borough council of Westminster on the means it has in this instance recommended, for we hardly remember to have seen a more shameless and unblushing instance of the time-honoured and simple money-saving principle of "Exploit the Doctor." It appears that Councillor J. P. Wallis has been at pains to discover the average sum paid by friendly societies to their medical officers, and this for attendance, medicine, and medical certificates he puts down as 4*s.* per man per annum. He suggests that this would be an adequate basis of payment to make for the council's workmen who live within a three miles' radius of the city hall, whilst a further 2*s.* should secure these benefits for those living beyond that radius. It is reckoned that 750 men would come under the former class and 250 under the latter, making a total annual expenditure of £225. We now quote verbatim the next section of the report which deals with the present arrangement.

> By the council's present system a workman in case of illness or accident is required to obtain weekly medical certificates from a district medical officer appointed by the council before being paid sick or accident pay. The cost of these certificates (2*s.* 6*d.* each) is borne by the council, but the workmen themselves defray the expense of any necessary medical treatment, medicine, &c. The cost to the council for medical certificates supplied to workmen during the year ended the 31st March, 1906, was £303 17*s.* 6*d.*, and during the year ended the 31st March, 1907, it was £220 7*s.* 6*d.* To this must be added the cost of printing, postage, and the time of the staff taken up in dealing with the certificates.

We are informed that the average number of sick men per week is 50 and on the new scale it is proposed to pay 86*s.* 6*d.* a week for the medical care of these men. It appears, moreover, that hitherto the council has paid an honest fee for the certification of its sick workmen but that it has so fallen from grace that now it is proposed to obtain certificates, medicine, and treatment for a less sum per annum than it has hitherto paid for the certificates alone. The justification for this proposal is an aspersion on the *bona fides* of the medical officers who have served it under the old scheme. The report states that "the duty of the medical man being confined to the issuing of weekly certificates at 2*s.* 6*d.* each"—nothing is said about the preliminary examination—"there is no inducement to pronounce a man fit for work at the earliest opportunity, as there would be were the medical man also answerable for the treatment of the patient, and were the remuneration an inclusive fee per annum. In the case of the men, whilst we are not aware that malingering has been practised to any extent, it is rendered easy, if not encouraged, by the present system." In plain English, at present the medical men will certify a workman as unfit to work for longer than is proper in order to pile up fees, whilst the new system is

calculated to induce a man to scamp his work. It would be hard to conceive a more unfounded accusation or a more unjust proposal. We greatly regret to record that the council adopted the principle put forward by its works and highways committee that it shall appoint such a number of practitioners as may be necessary for the purposes of this very shabby piece of contract practice. We trust it will find more difficulty in filling the posts than it appears to anticipate.

THE BIRTHDAY HONOURS.

OF the 14 medical men who have been the recipients of honours on the occasion of the King's Birthday ten are members of either the naval or military medical services, while four belong to the civil branch of the profession. Of these latter, one is a Governor and Commander-in-chief of a British colony. Two knighthoods have been conferred on medical men—namely, Mr. Henry Rosborough Swanzy, F.R.C.S. Irel., and Mr. Thomas Boor Crosby, M.D. St. And., F.R.C.S. Eng. Sir Henry Swanzy is President of the Royal College of Surgeons in Ireland and late president of the Ophthalmological Society of the United Kingdom. He is surgeon to the Royal Victoria Eye and Ear Hospital, Dublin, and ophthalmic surgeon to the Adelaide Hospital, Dublin. Sir H. Swanzy's contributions to the literature of ophthalmology are many and do not call for any detailed notice on our part, for the value of his ophthalmological work is well recognised. Alderman Sir Thomas Crosby is a sheriff and justice of the peace for the City of London. The names of eight medical men appear in connexion with the most honourable Order of the Bath. Inspector-General Herbert Mackay Ellis, K.H.P., director-general of the medical department of the Royal Navy, receives a Knight Commandership of the Order, whilst Colonel Charles Henry Beatson, I.M.S., Colonel George Deane Bourke, R.A.M.C., Deputy Inspector-General Thomas Desmond Gimlette, R.N., Surgeon-General Francis Wollaston Trevor, A.M.S., Surgeon-General Thomas Tarrant, K.H.P., A.M.S., retired; Deputy Surgeon-General Edward Malcolm Sinclair, late A.M.S., retired; and Deputy Surgeon General Alfred Eteson, I.M.S., retired, are made Companions of the Order, the three last named receiving the honour in connexion with the fiftieth anniversary of the Indian Mutiny. Sir William MacGregor, K.C.M.G., C.B., Governor and Commander-in-Chief of Newfoundland, who is an M.D. of Aberdeen, has been promoted to a Grand Commandership of the Order of St. Michael and St. George. At one time he held resident appointments at the Glasgow Royal Infirmary and at the Royal Lunatic Asylum, Aberdeen. He was also assistant government medical officer in the Seychelles. He has been chief medical officer in Fiji, receiver-general and administrator of the Government, and Acting High Commissioner and Consul-General for the Western Pacific, administrator of British New Guinea and Governor of Lagos. On Dr. Jean Etienne Justin Schneider, principal medical officer of the first class in the French army and late chief medical officer to the Shah of Persia and president of the Sanitary Council of Persia, has been conferred an Honorary Companionship of the Indian Empire. Surgeon-Lieutenant-Colonel Warren Roland Crooke-Lawless of the Coldstream Guards, surgeon to His Excellency the Viceroy of India, becomes a Companion of the Indian Empire. The Kaisar-I-Hind medal has been conferred upon Rai Bahadur Asutosh Mitra, L.R.C.P., L.R.C.S. Edin., the chief medical officer in Kashmir. Professor Edwin Ray Lankester, F.R.S., who has been made a Knight Commander of the Bath, though not a member of the medical profession, deserves special mention in connexion with the birthday honours. As Fullerian professor of physiology and comparative anatomy in the Royal Institution of London and as Linacre professor of comparative anatomy at Oxford he has done most excellent work, while his position as director of the Natural History Department of the British Museum has brought about a beneficent revolution in the study of natural history. The name of the Lord Mayor of London, the Right Hon. Sir William Purdie Treloar, who has been made a baronet, also must not be omitted. As president of the Metropolitan Hospital Sunday Fund and by his untiring efforts to ameliorate the sad lot of crippled children he has done good work. To all these recipients of well-earned honours we offer, on behalf of the profession, hearty congratulations. Since the issue of the Birthday Honours list the *London Gazette* of July 2nd contains the announcement that the King has appointed Sir Joseph Dalton Hooker, M.D. Glasg., G.C.S.I., C.B., F.R.S., to the Order of Merit. Sir Joseph Hooker, who is a late director of the Royal Gardens at Kew, is a retired surgeon of the Royal Navy and was surgeon and naturalist to the Antarctic Expedition of 1839-43 in the *Erebus* under Sir James Ross. From 1872 to 1877 he was president of the Royal Society. Our congratulations to this distinguished botanist and member of the medical profession upon his appointment will be shared in by members of the medical and scientific professions all over the world.

THE REPORT OF THE EGYPTIAN GOVERNMENT HOSPITAL FOR THE INSANE FOR 1906.

WE see by the report of Dr. J. Warnock, the director, that the average number of patients during the year was 695 and that by the evacuation of certain buildings used until now by the Egyptian Army hospital the asylum will shortly consist of 812 beds. Moreover, a new asylum is to be opened in three years' time to provide for the great number of chronic insane cases which still have to be discharged to make room for acute patients. These figures are very different to the 300 beds which for many years were considered enough for the insane men and women of the whole of Egypt. Among the improvements are chronicled the addition of a female charge nurse, a qualified dispenser, and several attendants and servants, and, most important of all, the railing in of a hundred acres of desert land surrounding the asylum, which will provide sufficient airing courts. Several improvements have again been postponed for want of funds, such as the building of workshops for male patients and residences for several of the junior employees, including the night attendants. The net daily cost per patient is a trifle over 1*s.* 4*d.* Attention has been drawn by the Government to the necessity of removing dangerous weapons from the insane before conveying them to Cairo from the country districts and also to the desirability of providing those patients with clothes who are destitute of any covering. The former injunction is quite necessary when we read that out of 67 men and women admitted during the year, charged with various offences, no less than ten were accused of murder and eight with attempted murder. The whole number of admissions was 563, and among these were 12 suffering from fractured ribs, arms, leg, and jaw. The popular belief in oriental countries that imbeciles and weak-minded youths are harmless and do not require asylum care is entirely contradicted by experience in Cairo, and Dr. Warnock again draws attention to the reprehensible habit among children of teasing these unfortunates and thus provoking criminal retaliation. This class of cases requires asylum interference to save them from ill-treatment and to prevent their retaliating on their tormentors. More than half the patients admitted were suffering from pellagrous insanity, mania, or hasheesh insanity. 33 patients, mostly Egyptians, were admitted suffering from general paralysis, and all of them except one man and one woman (a prostitute) had either the signs or history of previous syphilitic infection,

while 23 of them had, in addition, histories of alcoholic excess. General paralysis was responsible for 7 per cent. of the male patients admitted and for more than one-quarter of the deaths. The death-rate calculated on the average number of patients in the asylum was 6 per cent. Among the causes chiefly contributing to the insanity of the admissions of the year pellagra comes first on the list, followed, after a long interval, by hasheesh (cannabis indica), and then, after another interval, by syphilis and alcohol. Narcotics were administered often at night to procure sleep, paraldehyde being the drug most frequently used; only seven patients were mechanically restrained during the year for short periods in order to prevent their removing surgical apparatus from injured parts, or to prevent their persistent attempts at self mutilation. The facts that 302 of the cases admitted were certified to be dangerous to others and that 155 had attempted or threatened to commit suicide show the violent nature of the patients sent to this asylum.

SOME CONSOLATIONS OF A COLD SUMMER.

WE may extract after all some consolations from the cold summer which appears to be determined to remain a predominating feature of this year's meteorology. The existence of seasonal disease is, of course, well recognised and the history of vast human scourges teaches that the greatest development of diseases, such as plague and cholera, invariably occurred during the hot season. When all is said and done the cold of summer is never so bitter or so intense as is that of the winter, and the prevalence of diseases of the respiratory organs in an indifferent summer hardly counts when compared with the swollen returns of real wintry weather. Though there may be a few isolated cases of influenza in the cold summer the disease never reaches, as a rule, the scale of an epidemic as it does in the winter. The regular appearance of certain diseases with the seasons would appear to indicate that the vital activity of the body varies at different times of the year. When for some reason the vitality of the body is lowered the liability to disease is correspondingly increased. It may not be a hard-and-fast rule, but statistics certainly show a healthier condition of vitality of the human body in spring weather than in summer weather, while in the winter the vitality is neither maximum nor minimum. The causes underlying these seasonal variations in regard to bodily vigour may not be completely understood but many suggestions on these points have a scientific foundation. It must, at all events, be clear that there are agencies coexistent with the seasons which, according to the season, either sustain or lower the bodily energies. Amongst these agencies may be counted physical, chemical, and biological phenomena. The activity and growth of certain pathogenic organisms are stimulated under the conditions of a normal summer but checked under the conditions of a normal winter. In the spring, when the resistant powers of the body appear to be at their best, it is significant that the sun's rays approach the maximum in regard to actinic or chemical power, and actinic power signifies an energising quality. Later the actinic powers diminish and give way to an increased intensity of heat rays as exemplified in the sunlight of normal summer. In some ways the weather so far has borne more the character of spring than of summer and accordingly it is possible that certain pathogenic organisms may have lost their chance of prevailing over the human body. On the score of health there would thus seem to be no objection to such a condition of things provided that the weather is not excessively wet, that the temperature is not extremely variable, and that the sun shines. The continual absence of sun, perhaps, has been the worst feature of the present summer. Still, there are compensations; there have been no deaths from excessive heat, no sunstroke, no development of those diseases which are well known to flourish in hot weather, while the toilers in the town and the country have been spared the excuse that the prevalence of hot, sunny, and perhaps stifling days has put a premium on their inclination to work. These observations may afford some consolation, but should the weather in the meantime change and render them inopportune but few of us would express regret.

THE SUTURE OF BLOOD-VESSELS.

ONLY in comparatively recent years have wounds of the large blood-vessels been treated by conservative methods to any extent. The *Johns Hopkins Hospital Bulletin* for May contains an exhaustive historical and experimental study of the subject by Dr. S. W. Watts. About the beginning of the nineteenth century lateral ligature of wounds of veins which did not interrupt the continuity of the vessel began to be adopted. But lateral ligature can be used in only a limited number of cases. If the wound is large the ligature will produce considerable narrowing of the vessel and there is also danger of slipping. Venous suture was first successfully performed in 1882 by Schede and has now come into general use. Curiously the conservative treatment of arterial wounds antedates by more than a century that of venous wounds. In 1759 Hallowell, an English surgeon, successfully closed a wound in the brachial artery by passing a pin through its edges and a thread around this. In 1889 Jassinowsky showed that arterial wounds in animals could be sutured with preservation of the lumen of the vessel. From his experiments he concluded that all recent, clean, longitudinal, oblique, or flap wounds of large vessels and transverse wounds not exceeding half the circumference should be sutured. In man arterial suture has now been performed in a number of cases. In 1902 Schmitz collected 21 cases of lateral suture of arteries, which may be classified as follows: axillary artery, seven; femoral artery, five; popliteal and brachial arteries, of each, three; and common iliac, common carotid, and internal carotid, of each, one. Experiments on animals and clinical experience show that for successful suture, perfect asepsis, a clean-cut wound which can be approximated without much tension, and careful manipulation of the vessel without much stripping of its sheath are necessary. Silk appears to be the best material. The needle should be as fine as possible; whether straight or curved depends on the location of the vessel. Continuous suture seems to be preferable to interrupted, as it is simpler and can be applied more rapidly. There is a difference of opinion as to whether sutures should penetrate the intima or not. In suturing veins it is almost impossible to avoid such penetration. By including all the coats of the vessel suture is not only simplified but made more secure. Various methods have been used for producing temporary hæmostasis—pressure with the fingers, various clamps, strips of gauze, and so on. Whatever method is used the main point is to injure the vessel as little as possible. Pressure with the fingers is the gentlest method and should be used when possible. If any leakage occurs at the site of suture slight compression will generally cause it to cease in a few minutes. As lateral suture has not been successful in large transverse wounds of vessels and in cases in which the edges of the wound were crushed or otherwise injured, attempts have been made to unite the ends of the vessel after resection by simple circular suture, by protheses of various kinds, and by invaginating one end into the other. The same methods have been used in complete transverse wounds of vessels. Circular suture of arteries of animals has not given good results; thrombosis usually occurs. Murphy of Chicago invaginated the proximal into the distal end by means of three or four

double-needled silk sutures, which included only the adventitia and media of the proximal end but passed through the entire thickness of the distal end. He tried the method on the carotids of three dogs, four calves, four sheep, and once on the femoral artery and abdominal aorta of dogs. Only three cases were successful; thrombosis occurred in the others. Circular suture of veins has been performed less frequently. In 1903 Jensen performed experimental simple circular suture of completely divided veins seven times, and in four the vein remained patent. In man a few cases of circular suture of vessels have been recorded. In 1896 Murphy resected and invaginated the wounded femoral artery of a young man who was shot in Scarpa's triangle. Pulsation immediately reappeared below the invagination and good recovery followed. Dr. Watts has successfully performed experimental circular suture of the arteries and veins of animals many times. He finds that completely divided vessels can be sutured with almost uniform success if asepsis is secured.

PUBLIC ANALYSTS AND STATE MEDICINE.

PUBLIC analysts throughout the country are rapidly being expected to make the diagnosis of disease by bacteriological methods part of their routine work. Hitherto the professional chemist had confined his study of bacteriology in its practical application to the examination of foods, water, sewage effluents, and to certain industrial processes in which the operations of micro-organisms are concerned and it was but a step further to add to his inquiries the diagnosis of diphtheria, tuberculosis, typhoid fever, anthrax, and so forth. Some municipal and county authorities see no objection to combining in one person, no doubt on the score of economy, the duties of both analyst and bacteriologist, and such appointments have been made by certain authorities and have been approved by the Local Government Board. It can hardly be supposed that such an arrangement is likely to interfere with the public interest assuming that the person appointed is competent both as an analyst and as a bacteriologist. It may be pointed out also that the person so appointed acts conjointly with the medical officer of health. The analyst who is also a bacteriologist, in fact, relieves the medical officer of health of a considerable amount of work, a relief which enables the latter to devote more time to his duties as an administrator of sanitary affairs. The carrying out of bacteriological examination with the view of diagnosing disease is, strictly speaking, no part of the public analyst's duties and must therefore be regarded as an entirely separate office and as such should be remunerated on a separate basis and on a scale commensurate with that adopted in the case of the examination of foods and drugs. It is easy enough to decide what constitutes a bacteriological examination made purely in the interests of medicine on the one hand and one which on the other is directed to settling sanitary questions connected with food, water-supply, and the disposal of sewage. In the former case the analyst supplies material which are helpful in the diagnosis of disease and the results are of value to the medical officer; in the latter he discloses the efficiency or deficiency of preventive measures. It is a sign of the times, we suppose, that this State medicine work threatens to exceed the work connected with the examination of foods and drugs. In the report, for example, of the public analyst and bacteriologist of the city and county of Bristol for the year ended Dec. 31st, 1906, we note that while 607 samples of foods and drugs were submitted for analysis during the year the work of the laboratory included nearly 3000 examinations of pathological or suspected pathological specimens, 2549 coming under the head of diphtheria, 256 under tuberculosis, 137 under enteric fever, and ten under miscellaneous examinations, including one for anthrax. This clearly means the addition of considerable work and of an enormous responsibility to the duties of the public analyst, and this increased responsibility obviously must raise his value as a public servant which should be recognised in the shape of adequate remuneration. As it is, the view of many authorities seems to be that bacteriological work, which includes pathological inquiry, can be "thrown in" as part and parcel of the public analyst's duties and can be included for the same remuneration that a public analyst receives when his work relates only to the examination of food and drugs. We hold no special brief for the public analyst, who is rarely a medical man, but are constrained to remark that this seems hardly fair.

THE OXFORD PAGEANT.

THE University of Oxford has been accused of flouting the medical sciences but the Oxford pageant has none the less proved of subtly flattering interest to the world of medicine. The proceeds of the performances, which must amount to a large sum in view of the many thousands of spectators who attended them, are, we understand, to be devoted to the benefit of the Radcliffe Infirmary, and though the famous benefactor, Dr. Radcliffe, has not himself been represented in this great scenic triumph of university and civic history, yet medicine, as one of the members of the mediæval "Trivium," has figured there a stately genius who, caduceus in hand, played in the "Masque of Mediæval Learning," that fascinating interlude dividing into two parts the long and gorgeous series of 15 scenes which make up the pageant.

"Medicine, next divinity,"

says the quaint Prælector to the vain and serious students to whom he introduces the several characters of the masque—

"Doth teach the cure of the body,
And maketh Melancholy be
Health's ward in cheerful chancery."

Nor does medicine appear in allegory only. The chief poet of the pageant is a medical man and well-known writer of classic English verse, Dr. Robert Bridges, whose noble ode, "An Invitation to the Pageant," and not less noble prophecy of the future of Oxford, put into the mouth of Theobald of Etampes, the twelfth century pioneer in the university of the learning of the schoolmen, are not only a worthy continuation of the poetic Oxford tradition, but are in themselves fine additions to English literature. Through Theobald's prophecy Dr. Bridges now ranks with Matthew Arnold, whose phrase "the city of the dreaming towers" has become historic. Though THE LANCET is a prose journal, we may for once quote these fine lines by a "doctor." Theobald of Etampes has looked down in a dream upon—

"a lovely city in a wide vale.
High in the south the sun
Smote on her crowded pinnacles, that rose
With spiry delicacy of silver-grey,
As 'twere a fretted casket of man's thought,
Severe mid the soft wilderness of green.
Beneath her walls a river flowed meandering
Thro' flowery meads, rushes, and willowbanks,
Where the sweet birds of the stream warbled all day.
But evermore my wandering eye return'd
Unto the lovely city."

RUPTURE OF THE MESENTERY DUE TO A FALL.

IN the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of June 23rd Dr. A. Laubie has reported a curious result of a fall from a height—fatal rupture of the mesentery without other abdominal lesion. A man fell from a height of 15 metres and died after two and a half hours. Six days later and four days after he had been interred Dr. Laubie was requested to make a necropsy. The body was that of a strong healthy man and showed signs of incipient decomposition. In the left parietal region was a contused wound measuring from 10 to 12 millimetres which did not extend to

the cranium. There were no signs of fracture of the skull or of injury to the brain. The spinal cord was exposed and a small extra-dural clot was found at the level of the third and fourth cervical vertebræ. The cord here felt soft but section revealed nothing abnormal. The lower part of the mesentery of the small intestine showed a blackish tint and a tear the dimensions of which were difficult to ascertain as the least traction lacerated the tissues. In the right renal region were clots of the volume of two fists and the tissues of the posterior surface of the abdomen were impregnated with blood. Dr. Laubie thought that the spinal lesions were of little importance, as there was no solution of continuity of the cord. The lesion of the mesentery he thought was the cause of death, though the intestine was intact. An internal hæmorrhage in the course of severe injury might be fatal. The effects of the former, always a grave condition, would be added to the shock of the injury. Possibly spinal concussion was also a factor in producing death.

AN ACT TO PREVENT PROCREATION OF UNFIT PERSONS.

THE State of Indiana has just passed the following drastic measure to prevent procreation among confirmed criminals and mental degenerates of different sorts :—

Preamble.—Whereas heredity plays a most important part in the transmission of crime, idiocy, and imbecility;

Penal Institutions—Surgical Operations.—Therefore, be it enacted by the General Assembly of the State of Indiana, that on and after the passage of this Act it shall be compulsory for each and every institution in the State, entrusted with the care of confirmed criminals, idiots, rapists, and imbeciles, to appoint upon its staff, in addition to the regular institutional physician, two (2) skilled surgeons of recognised ability, whose duty it shall be, in conjunction with the chief physician of the institution, to examine the mental and physical condition of such inmates as are recommended by the institutional physician and board of managers. If, in the judgment of this committee of experts and the board of managers, procreation is inadvisable and there is no probability of improvement of the mental condition of the inmate, it shall be lawful for the surgeons to perform such operation for the prevention of procreation as shall be decided safest and most effective. But this operation shall not be performed except in cases that have been pronounced unimprovable: Provided, that in no case shall the consultation fee be more than three ($3.00) dollars to each expert, to be paid out of the funds appropriated for the maintenance of such institution.

It would seem difficult to comprehend the exact value of this piece of legislation, for apart from the criminal it is merely directed against the "unimprovable" cases detained in the State institutions. Now in the vast majority of instances the "unimprovable" patient remains the rest of his life in the asylum and it cannot be necessary to subject him to this somewhat severe operation, when all opportunities of procreation have been, or should have been, withdrawn. It is an Act which will not assist the early placing of patients under care, as it will add another, and in this instance a very real, horror to the asylum. The perplexing patients to deal with are those who have recurrent attacks of insanity and who frequently propagate their species between these attacks. Now these persons are apparently immune from this Act. One of the great difficulties in carrying out this law will be that of deciding who are the "unimprovable" cases. There is no time limit; therefore a patient may be emasculated in the first month of his residence in the institution, provided that the board and the experts agree that he belongs to the "unimprovable" class. There is no appeal, neither does it appear that the relatives can intervene. Even were it possible to grant that this treatment is advisable and proper, surely this is a great power to place in the hands of that class of expert who would be willing to be consulted at $3 per case. Further, it must be borne in mind that many persons, especially females, rapidly degenerate mentally after their reproductive organs have been removed. Therefore in eliminating the bare chance of a given patient begetting an insane offspring it will be within the bounds of possibility that she may be made chronically insane, whereas if not operated upon she might have recovered. We are not certain that it has been proved that a large proportion of the insane are the offspring of "confirmed criminals, idiots, rapists, or imbeciles"; therefore this scheme of legislation would appear to be more vexatious than practical. We do not say much regarding the confirmed criminal, for presumably he is in possession of his faculties, and if the risk of emasculation is added to the detention in gaol the enhanced penalty may deter the thief or the wife-beater from his evil practices. In conclusion, we feel bound to condemn this enactment, for the objections are great compared to the small good which may be gained; for, whilst fully appreciating the importance of doing something to prevent the spread of insanity, we should prefer to rely on less drastic legislation, together with the education of the public, rather than in seeking the remedy by the surgical knife.

OPERATIVE TREATMENT OF THE LARGE BOWEL.

Dr. Robert Hutchison, in the course of some recent remarks in the wards of the London Hospital on the treatment of muco-membranous colitis, after discussing the treatment by diet, considered the question of ileo-sigmoidostomy with the removal of the colon. In regard to diet there were, Dr. Hutchison said, two diametrically opposed schools of teaching. Most German authorities, headed by von Noorden, appeared to recommend a bulky diet rich in cellulose, such as was commonly prescribed in the treatment of ordinary constipation. French authorities, on the other hand, whose experience of the disease at Plombières was peculiarly large, employed a diet which was calculated to leave as little residue in the bowel as possible. Personally, he agreed entirely with the French plan and commonly prescribed a diet from which all insoluble débris was removed as far as possible. That indication was met by recommending that all animal food should be passed through a mincing machine and all vegetable food through a fine sieve. If those conditions were observed the actual composition of the diet might safely be left to the choice of the patient. He was inclined to think, however, that in severe cases all animal foods, except milk, should be forbidden and that the diet should be a purely lacto-farinaceous one. He had known at least one case in which such a diet was observed for more than a year with the greatest benefit. He came finally to the consideration of operative measures. In intractable and old-standing cases which had resisted treatment, and where the patient was becoming more and more of a confirmed invalid, it was naturally asked whether any help was to be found in surgery. A temporary ascending colotomy had been recommended in such cases and practised with some success, but its inconveniences were very great. Ileo-sigmoidostomy appeared on the face of it to be a more rational proceeding, for it threw the colon out of action completely and permanently. His experience of that operation in muco-membranous colitis was limited to three cases. In all of those great improvement resulted and was maintained after the lapse of more than a year, but in none was there a complete cure. One patient, indeed, continued to pass considerable quantities of mucus in spite of the fact that the ileum had been detached from the cæcum and united to the lower part of the sigmoid flexure. He thought, therefore, that it would be well, where the absence of adhesions made it easy, to remove the entire colon in such cases in order to prevent the regurgitation of the intestinal contents into the cul-de-sac which remained when the large bowel was left *in situ*. That, as they knew, had been practised successfully by Mr. W. Arbuthnot Lane in severe cases of fæcal stagnation from atony and dilatation of the colon—a condition in which, as a matter of fact, muco-membranous colitis was often present as well. In two of Dr. Hutchison's cases appendicostomy was

performed in order to permit of thorough lavage of the bowel, a tube being worn for the purpose for some months. In both distinct improvement had resulted but the operation was yet too recent to enable the final result to be judged. He anticipated, however, that ileo-sigmoidostomy would prove to be the more satisfactory procedure and he would never hesitate to recommend it in cases which had resisted all other attempts at treatment.

THE ROYAL ANTHROPOLOGICAL INSTITUTE.

BY command of His Majesty the King the Anthropological Institute is henceforth to be distinguished by the designation of "Royal." In congratulating the institution upon its new honour we will take the opportunity to point out how well it is deserving of such official recognition. There are few sciences that have a wider range of study and certainly none that has a more direct human interest than that of anthropology. It legitimately concerns itself with such varied interests as deal with the subject of physical racial deterioration at home and that of the better appreciation of the customs and modes of thought of the native races inhabiting the many colonies and dependencies for the proper administration of which our country has made herself responsible. Anthropology is indeed no purely academic science, although happily our old universities have afforded excellent opportunities for its study, but one which actively concerns our legislators at home, our administrators abroad, and the medical profession everywhere. It is a science indeed in which the medical man who takes a broad outlook upon his profession will find an engrossing interest, and it is sufficiently wide in its application to enlist the coöperation of minds of a widely varying bent: anatomy, sociology, ethnology, genetical research, are only a few of its important branches. We trust that the new and honourable title with which its British representative has been endowed will give the science that place in the estimation of the thinking public which its great practical importance deserves.

SHELTER FOR HOMELESS WOMEN.

ANYONE who has investigated the existing provision for sheltering the homeless outcast must have been struck with the lack of any suitable accommodation for otherwise respectable women and girls who, by untoward circumstances, have drifted into the lower strata of society. In concluding the report of our Special Sanitary Commission on the Rowton House at King's Cross we said: "We would earnestly ask him (Lord Rowton) whether some similar provision could not be made for the corresponding class of females. We appreciate the difficulties, but the need is urgent."[1] Indeed, Lord Rowton, who, in conjunction with Sir Richard Farrant, was the originator of Rowton Houses, in the course of a conversation with our Commissioner admitted the necessity of cheap shelters for females, but saw so many possible difficulties in the way that he did not think it advisable to risk the erection of houses for women. We welcome therefore the scheme which Mrs. Mackirdy (Olive Malvery), the authoress of the "Soul Market," has suggested for the shelter of about 200 women and girls. Briefly, it is proposed to place in the vicinity of Westminster or Vauxhall a shelter where women can obtain a bed for 2*d*. There will be washhouses attached to the building and a cheap food bar, a feature of which will be the provision of pure milk for babies. When once equipped and placed upon a working basis the shelter will be handed over to Mrs. Bramwell Booth, so that the public will have no further call upon their purses in connexion with the shelter. If the scheme should do no more than prevent 200 women and girls from wandering in the streets at night rather than seek the refuge of the "Doss" or "Kip" house, a great work will have been done. But we hope that the scheme will be still more successful and that eventually other houses will be built and that the blot on our city of allowing homeless but otherwise respectable females to wander at night in the streets will be wiped out. The committee for carrying out the scheme includes, amongst others, the Duchess of St. Albans, Lady Wemyss, Lady Brassey, Lord Brassey, Lord Reay, Lord Curzon, Lord Strathcona, Sir Dyce Duckworth, and Dr. T. N. Kelynack. Lady Brassey, whose address is 24, Park-lane, London, W., will gladly give further particulars of the scheme to inquirers.

[1] THE LANCET, March 28th, 1896, p. 867.

EPIDEMIC CEREBRO-SPINAL FEVER.

Dr. R. M. Buchanan, bacteriologist to the corporation of Glasgow, has stated in a recent report that the meningococcus was found in nearly 25 per cent. of the individuals examined, they being most commonly adults. It was found in four convalescents on the seventeenth, thirty-fifth, fifty-sixth, and seventy-fifth days from the beginning of their respective illnesses. On various persons who had recovered from the disease being examined three of them still showed the presence of the meningococcus in the throat. One had the illness two years, one other 12 months, and a third three months ago. The results would seem to show that the infection of cerebro-spinal fever may be spread by individuals who offer no evidence of its presence. The germ may also apparently remain a long time in the throat of individuals stricken with the disease, even after recovering from it. In Scotland during the week ended June 29th there were 16 deaths from this cause registered in Glasgow, 3 in Edinburgh, and 1 in Dundee. In Glasgow the weekly report issued on June 28th showed that there were at that time 80 cases under treatment. In Belfast during the week ended June 29th there were 6 deaths registered as being due to this cause.

THE RETIREMENT OF POSTAL MEDICAL OFFICERS UNDER AN AGE-LIMIT.

SOME ten months ago the Postmaster-General issued an entirely new regulation intimating that he had decided to review annually the efficiency of postal medical officers who were over 60 years of age, retaining those only who were found to be "thoroughly efficient" and retaining none in any circumstances after 70 years of age. Since its promulgation the Association of British Postal Medical Officers has been unceasing in its efforts to obtain either great modifications in, or rescission of, this regulation. The postal medical officers contended that much hardship was involved in making so totally unexpected a regulation retrospective and that the method of determining the question of efficiency was not satisfactory because it was based on secret reports to which the medical officers had no access and to which they had no opportunity of replying; and they claimed that it was but just that a medical consultative board should be instituted before which postal medical officers would have the right to appear and to be heard in refutation or extenuation of any charge of inefficiency. It was also most strongly urged that postal medical officers would be the only servants of the Post Office liable to dismissal for inefficiency without warning of any kind being given, and likewise that they would be the only public servants to be retired from public appointments under an age-limit without any compensation or gratuity. As the result of applications made to the Postmaster-General by the Association of British Postal Medical Officers Mr. Buxton consented to receive a deputation of its members. Accordingly a deputation, consisting of Dr. E. L. Adeney (Tunbridge Wells), the president, Dr. George A. Mason (London), the

president-elect, Dr. J. Dunlop (Bradford), Dr. A. Campbell (Dundee), Dr. J. Walton Browne (Belfast), Mr. D. I. McVeagh (Coventry), Dr. T. F. Higgs (Dudley), Mr. W. A. Berridge (Redhill), Dr. M. Coates (Streatham), and Dr. R. R. Giddings (Nottingham), the honorary general secretary, waited upon Mr. Buxton at St. Martin's-le-Grand on June 27th. The Postmaster-General was accompanied by Mr. Babington Smith, C.B., C.S.I., and Mr. Arthur H. Wilson, respectively the secretary and the medical officer-in-chief to the Post Office. The outcome of the interview was, we understand, most satisfactory to the deputation, Mr. Buxton, after courteously listening to the arguments advanced, coming to the following decision:—

1. That present and prospective postal medical officers over 70 years of age are, if they desire to retain their appointments, personally to bring their cases under the notice of the Postmaster-General, and in all cases where they can be shown to be still efficient he will favourably consider them for retention in their present positions.
2. That only where a postal medical officer is hopelessly inefficient and his inefficiency is such that there is no possibility of him improving will he in future be discharged without a warning, but that where a medical officer is getting slack and showing inefficiency in the opinion of the department he will be given 12 months' notice and will be reported upon again at the expiration of that time and if it should occur that he can then be reported as being efficient his services will be retained.
3. That whenever a postal medical officer is reported as being inefficient he will be given information of the nature of his inefficiency in general terms, and if any specific charge is preferred against him it will be stated. If any postal medical officer reported as inefficient considers that the charge is an unjust one he will in future be entitled to have a personal interview with the medical officer-in-chief or the second medical officer at the London head Post Office and to lay then before him any matters in explanation or extenuation of the charge.
4. That Mr. Buxton requested to be supplied by the Association of British Postal Medical Officers with a memorandum of its proposed scheme of superannuation for medical officers and promised to accord it his sympathetic consideration, adding, however, that if it converted him it would still be a matter for the Treasury to decide upon.

THE new premises of the City of London Lying-in Hospital, City-road, were formally opened on Monday last, July 1st, by H.R.H. Princess Christian in the presence of the Lord Mayor of London, Sir William Treloar, who is the president of the charity, and of a large number of the supporters of the hospital, the committee, and the staff.

Dr. Donald MacAlister, President of the General Medical Council and Principal of the University of Glasgow, has been appointed by the Crown on the governing body of the Imperial College of Science and Technology, and appears to be the only member of the medical profession nominated to serve on that body.

THE Laryngological Section of the newly constituted Royal Society of Medicine will hold its first general meeting at 20, Hanover-square, London, W., on Tuesday, July 9th, at 5 P.M., for the adoption of rules, the election of a council, and the transaction of other necessary business.

THE annual Congress of the Royal Institute of Public Health was opened on Saturday evening, June 29th, at Douglas, Isle of Man, by Lord Raglan, the President of the Institute for the year and the Lieutenant-Governor of the island.

KING'S COLLEGE HOSPITAL.—In aid of the fund of King's College Hospital a festival dinner was held at the Hotel Cecil on June 28th. Lord Methuen presided, and in proposing "Success to King's College Hospital" he traced the history of the institution and said that the removal of the hospital to South London would cost £300,000. Mr. W. F. D. Smith, M.P., had given 12 acres of land at a cost of £62,000. The annual expenditure of the hospital was about £22,000 and the ordinary income £16,000. He hoped the time was far distant when the hospitals of London would be placed upon the rates, and he appealed to the charitable public to prevent this. The support of medical schools was only second to the support of hospitals and the public ought to subscribe freely to this branch of hospital work. A sum of about £1400 was collected during the evening.

IMPORTANT EPOCHS IN THE HISTORY OF THE OLD SCHOOL OF MEDICINE OF PARIS.[1]

BY H. MACNAUGHTON-JONES, M.D. Q.U.I.

IN 1281 the Faculty of Medicine, desirous of having a separate building and depository for its archives, had its first installation beside the School of Arts in the rue Escholes des Escholiers. The first authentic acquisition of property occurred on May 24th, 1309. In the rue du Fouarre from the thirteenth to the fourteenth centuries the Faculties of Arts and Medicine were united. In 1369 the two faculties separated, and that of medicine obtained a house at the corner of the rue des Rats and the rue de la Bucherie. This was the cradle of the Medical School.

Dulaure, in his "History of Paris" (p. 242), says that in the School of Medicine, situated in the rue de la Bucherie, No. 15, medicine was taught in the University of Paris. But this science was very little advanced and contaminated by magical practices had no special school. In 1469 the University assembled at Notre Dame, and determined to establish a separate institution for the teaching of medicine. An old building belonging to the Carthusian nuns was secured in the rue de la Bucherie. The construction of the school building was commenced in 1477. Following the ancient custom the professors and scholars were fathers (priests), though they were called "physicians" or sometimes "doctors."

Little by little the neighbouring buildings were encroached upon and in 1608 the house which formed the corner of the rue du Fouarre[2] and the rue de la Bucherie was acquired and an anatomical amphitheatre was constructed. Gradually the Faculty increased and modified its internal installation, the outside of the buildings giving but little idea of the character of the school at this time. It was in the middle of the eighteenth century that the amphitheatre, of which we see the cupola (shown in the etching) at the corner of the rue de la Bucherie and the rue de l'Hôtel Colbert, was constructed (1742–44), and this was solemnly inaugurated on Feb. 18th, 1745, by the celebrated anatomist, Winslow, who taught here. Despite many restorations the buildings were in such a state of repair that in 1775 the Faculty was obliged to install itself in the rue St. Jean-de-Beauvais (given up by the Faculté de Droit), where it remains to the present day.

Up to the middle of the fifteenth century all the members of the different grades in the University were designated by the name of "*clerc*," which had reference to their religious character, and celibacy was imposed on the doctors of medicine as on the other members of the clergy. The University of Paris was then a great intellectual centre for the entire world, and up to 1790 the diplomas that it granted to its medical graduates entitled them to practise "*urbi et orbi*." The University, composed of four faculties, Arts, Theology, "La Faculté de Droit Civil et de Droit Canon" (still called the "Faculté des Décrets") and Medicine, had special rights over that portion of Paris situated on the left bank of the Seine. The students were mainly recruited from the bourgeois class, and their lives were intimately associated with it. "Arts" was the oldest of the faculties and medicine was probably not acknowledged until 1270.

In 1792, after the cessation of the Faculty of Medicine, the buildings of the rue de la Bucherie became national property. They were restored in 1810 and divided into many lots. In 1896, when the town of Paris took them over, the lower schools were converted into a lavatory, the amphitheatre was occupied by a wine merchant, and a billiard saloon was installed on the spot where Winslow had taught. The chapel, botanical garden, and the library had all disappeared. Referring to this demolition Dr. René Fauvelle says: "Sic transit gloria mundi." The tablets on the old building bore the inscription "Scholæ Medicorum." Corlieu in his brochure "L'Ancienne Faculté de Médecine de Paris" calls it "le berceau de notre profession."

It is interesting to note that in olden times the celebrated

[1] Taken from the work of Dr. René Fauvelle, "Les Etudiants en Médecine sous le Grand Roi," and Dulaure's "Histoire de Paris," and Corlieu's "L'Ancienne Faculté de Médecine."

[2] Now the rue de l'Hôtel Colbert since 1828. The rue de Fouarre has been suppressed in part by the extension of the rue Lagrange to the Quay.

oath of the physicians was taken kneeling before the altar of St. Denis in Notre Dame (the spot now occupied by a monument dedicated to Archbishop Affre). In the old chapel of the school there was a painting of St. Luke, and on his fête day a special mass was celebrated and chanted by the physians, who were at the same time monks or occasionally canons of Notre Dame.

The accompanying etching by Miss Katherine Kimball was made in 1904 for reproduction in Okey's "Paris." Since then the building has been to a great extent demolished, and has, I believe, been handed over to the Association des Etudiants de Médecine. The etching shows Winslow's cupola. The building in its present state cannot stand for any time and must be rebuilt. The original amphitheatre was constructed of wood and open at the side—rather a contrast to our modern well equipped and comfortable anatomical rooms and theatres. In those days mules were ridden by the physicians, so posts were placed at the sides of the doors of the schools to assist them in alighting.

The Old School of Medicine of Paris.

MEDICINE AND THE LAW.

Trial for Murder and Concealment of Birth in Essex.

AT the recent assizes at Chelmsford two women, a domestic servant, aged 21 years, and her grandmother, aged 74 years, were indicted for the murder of the infant child of the former. The charge of murder against the younger prisoner was withdrawn by the counsel for the Treasury before the trial but was proceeded with against the elder one, who was eventually acquitted. Both prisoners were found guilty of concealment of birth. The evidence showed that undoubtedly the younger prisoner, Emily Campion, had been delivered of an illegitimate child at the house of her grandmother, Maria Webb, and that the latter had given the dead body to a male relative who had buried it in his garden, preserving the secret as was not unnatural. In these circumstances it will easily be understood that there was no evidence of the commission of the crime of murder except the medical evidence founded upon post-mortem examination and upon statements made by the prisoners. The concealment of the birth, the manner in which the body was disposed of, and much of what was said by the prisoners in the course of inquiries, apparently of a somewhat inquisitorial nature, on the part of the police were equally consistent with the child having been born alive or dead. On behalf of the Treasury the medical evidence was given by Mr. Henry J. Price and Mr. A. E. Lyster. The former

gentleman, who was under examination for a long time, had two points closely connected with one another to deal with: the question whether there had been life in the sense required by the law, and that of how such life had been terminated. With regard to the former the flotation of the lungs was mainly relied upon, the test having been carried out by the removal of the whole of the contents of the thorax, including a large thymus, and the placing of them in water after ligaturing the vessels, when it was found that the lungs contained sufficient air to prevent the mass from sinking. On the second point the question at issue resolved itself into whether the grandmother had strangled a live child with a cord procured by her for the purpose, or whether, as she had alleged, she had found her granddaughter delivering herself of a child already dead, or almost dead, through the winding of the umbilical cord twice round its neck, and had only then assisted in completing the delivery, by which time the child was found to have been stillborn. The grandmother had practised as a midwife until the passing of the Midwives Act, when apparently she had not sought registration. The evidence as to the intentional strangulation with a foreign substance rested on the features presented by a grooved line running round the neck of the exhumed body. This was described by Mr. Price as a well-marked groove about a quarter of an inch in width, with raised hardened edges, and higher at the back of the neck than in front, the examination of it having led him and Mr. Lyster to the conclusion that a foreign substance and not the umbilical cord must have caused it. Death they assigned to strangulation in the manner indicated, combined with hæmorrhage from the umbilical cord, the evidence of which was duly described. The evidence of the two witnesses named was corroborated by that of Mr. A. J. Pepper, called as an expert. For the defence, the statements of the prisoner, Mrs. Webb, were given weight to by Dr. F. J. Smith who gave evidence to the effect that the physical phenomena observed and described by the medical witnesses for the Crown were not conclusive as to her guilt but were at least consistent with her story being true, and he himself expressed the opinion from the facts described that the child was stillborn owing to strangulation or suffocation during protracted delivery. He did not regard the evidence of separate existence derived from the flotation of the lungs deposed to as conclusive. His views were supported by Dr. H. Russell Andrews who agreed with him in thinking that the mark described upon the neck might or might not have been caused by the umbilical cord. In these circumstances the jury, after retiring to consider the evidence, acquitted the prisoner Webb of the charge of murder but convicted her and her granddaughter of concealment of birth, for which offence they were each sentenced to six months' imprisonment with hard labour.

An Action to Recover Fees.

The executors of the late Mr. C. J. Oldham, F.R.C.S., recently sued an elderly lady, Mrs. Fraser, residing at Byron Hall, Worthing, for the balance of an account for £168 for attendance and for performing an operation. Mr. Oldham at the time when the debt was incurred lived at Hove, Brighton, and the amount was made up of charges of 3 guineas each for 19 visits to his patient at Worthing, a distance of about ten miles, a hundred guineas for the operation, and 3 guineas for the anæsthetist's fee. The operation was performed in January, 1901, and the account was sent in frequently after Mr. Oldham's attendance upon his patient ceased towards the end of that year. One of her sons, Captain Fraser, appe to have thanked Mr. Oldham for his kindness and to have mentioned family difficulties as a reason for not paying the account. It remained unsettled for some time, but finally, after a solicitor had intervened, bills for £40 payable at intervals of three months were given and two of these were met. Mr. Oldham died in January, 1907, and his executors brought the action to recover the balance due and the defendants not only resisted this but set up a counter claim for part of the money which they had paid on the ground that they had not known that the sum of £100 represented the operation and that it was excessive. Another son, Major Fraser, in addition to the one already mentioned, went into the witness-box and gave evidence as to this, informing the court that their mother was the widow of an officer in the army enjoying two pensions as such, amounting to £450 a year. One of these gentlemen characterised Mr. Oldham as a "local practitioner" who should not have charged a widow lady £100 for a single operation. His Honour Judge Woodfall, in summing up, pointed out that there was nothing in the evidence given to show that the charges were excessive and paid a tribute to the medical profession, dwelling upon their readiness to reduce their charges or to make none in cases of real necessity. A verdict was found for the full amount claimed by the executors, for which judgment was given with costs.

IMPERIAL CANCER RESEARCH FUND.

THE annual meeting of the general committee of the Imperial Cancer Research Fund was held on July 1st at Marlborough House, the PRINCE of WALES presiding. Among those present were: Sir William S. Church, Sir Julius Wernher, Sir Charles Morrison Bell, Sir Richard Douglas Powell, Sir Henry R. Swanzy, Sir Henry G. Howse, Sir John McFadyean, Mr. H. L. Florence, Dr. John Tatham, Dr. J. Rose Bradford, Mr. H. T. Butlin, Mr. W. Watson Cheyne, Mr. J. A. Mullens, Mr. Henry Morris, Mr. Ludwig Neumann, Mr. S. Neumann, Mr. Edmund Owen, Mr. H. J. Stiles, Dr. E. F. Bashford (general superintendent of research), Dr. J. A. Murray, Dr. Haaland, Mr. W. H. Bowen, Mr. E. R. Frere, and Mr. F. G. Hallett (secretary).

Sir WILLIAM CHURCH, in moving the adoption of the report, said that the investigation into the cause, nature, and treatment of cancer had, during the past year, followed the same lines as in former years. Owing to the valuable assistance received from the Governments of India and other dependencies, as well as from the Foreign, Colonial, and India Offices, and from private sources, their knowledge of the existence and frequency of cancer in various races of men was steadily increasing; and its presence was found to be associated not infrequently with native customs or religious rites which acted as sources of chronic irritation of portions of the surface of the body. Statistical information continued to be collected from London and provincial hospitals. Reports of 1282 cases (rather more than a quarter of the total deaths from cancer in the metropolitan area) had been received from the London hospitals and 392 from provincial hospitals. The probabilities of cancer manifesting itself in individuals and in families in persons over 35 years of age had been made the subject of calculation. 20 years ago Dr. William Ogle, then statistician to the Registrar-General, stated that one out of 21 men reaching the age of 35 years and one out of every 12 women reaching the same age eventually died from cancer. From the Registrar-General's report for 1905 it had been calculated that at the present time, of men over 35 years of age one in 12 would eventually die from cancer and one woman in every eight who attained to the same age. These figures were higher than those given by Dr. Ogle, and the numbers of cases in the two sexes were approximating, which might be due to the fact that women suffered from forms of the disease more easily recognisable than was the case in men. It was impossible to say how far this apparent increase in the number of persons affected arose from a real increase in the frequency of the disease or from its more frequent recognition now as the cause of death. In man, owing to the length of life, the low rate of fecundity, and the varying value of the records, there were no means of obtaining from the records of preceding generations the facts with anything like scientific accuracy. Experiment was necessary in order to trace more accurately the circumstances associated with the spontaneous occurrence of cancer both in individuals and in families. It had now been found possible to establish strains of mice from cancerous parents. The removal by surgical means of cancerous tumours occurring spontaneously in mice prolonged their lives and had enabled young ones to be bred from them; they had, therefore, now the means of observing descendants of mice of known cancerous parentage, and by successively crossing other spontaneously affected animals with the offspring of cancerous parents, the hereditary tendency, if there was any, could be concentrated. This concentration in large numbers of animals of a known age should enable them, in the course of a few years, to determine whether there was a family tendency or only an individual tendency to the disease. At this part of his address Sir William Church summarised the experimental work accomplished in the laboratory during the past year. Our comments on these investigations will be

found in a leading article contained in another part of our present issue, and pathologists will agree that fresh light has been thrown upon some important points. Sir William Church concluded by saying that much attention had been given during the past year to various alleged cures for cancer, but it was found impossible to ascribe a curative value to any of them. Experiments with trypsin alone, or in conjunction with amylopsin or as pancreatic extract, had been made, and it appeared in mice to exert no effect on the growth of the tumours. He also called attention to the efficient manner in which the superintendent and his assistants, Dr. Murray, Dr. Haaland, and Mr. Bowen, had carried on the work of the research, and to the assistance received from Dr. S. Monckton Copeman and Dr. Hake in examining the gastric secretion of mice.

Sir HENRY SWANZY, in seconding the motion, said that the thanks of all were due to Dr. Bashford and his able assistants for the efforts which they had been making to solve the many problems connected with cancer.

The motion was carried unanimously.

Sir JULIUS WERNHER proposed a vote of thanks to the chairman and members of the executive committee, the sub-committee, the honorary treasurer, the secretary, auditor, and others who had assisted in the work of the fund during the past year. The work of the fund was in some quarters thought to be slow but there were very few people who recognised the nature of the scientific difficulties which had to be surmounted. Owing to the generosity of Mr. and Mrs. Bischoffsheim there was now a prospect of their having a sufficient income from investments to meet their normal requirements.

Mr. FLORENCE seconded the motion, which was unanimously agreed to.

Mr. MORRIS moved :—

That the general committee desire to place on record their deep sense of gratitude to Mr. and Mrs. Bischoffsheim for their recent munificent gift of £40,000, which, together with Mr. Bischoffsheim's original donation of £5000, will do so much towards placing the Imperial Cancer Research Fund on a secure financial basis.

Sir CHARLES MORRISON BELL seconded the motion which was adopted unanimously.

On the motion of Dr. BRADFORD, seconded by Mr. LUDWIG NEUMANN, Mr. Watson Cheyne was re-elected a representative of the general committee on the executive committee; and on the motion of Mr. BUTLIN, seconded by Sir JOHN MCFADYEAN, Sir John Tweedy was elected a member of the general committee.

Sir R. DOUGLAS POWELL proposed a vote of thanks to the Prince of Wales for presiding and referred to the great interest which His Royal Highness had shown in the Research Fund from its foundation. This circumstance was a great encouragement both to the executive committee and to those officers who were engaged in research work; it was also an assurance to the public that any practical results would at the earliest moment be applied to the relief and prevention of this formidable and very prevalent disease.

Mr. EDMUND OWEN seconded the motion which was passed by acclamation.

The PRINCE OF WALES, in reply, said: It is a great pleasure to me to have been able to preside at this annual meeting of the Imperial Cancer Research Fund, and I wish to express my gratitude to Sir Douglas Powell and Mr. Owen for the kind terms in which they have proposed and seconded this vote of thanks, and to you, gentlemen, for the hearty response which you have given to it. I have been much interested in listening to Sir William Church's remarks on this year's report of the general superintendent. We have every reason to be satisfied with the growing confidence of the public in the work of the Fund. This is evident from the wide development of its investigations, in which workers in all parts of the world are now taking part; from the endeavours which are now being made in France, Belgium, Scandinavia, and the United States to organise similar investigations; and last, but not least, by the munificent donation of £40,000 from Mr. Bischoffsheim, a vice-president, and Mrs. Bischoffsheim in celebration of the happy event of their golden wedding. I am glad to have this opportunity of publicly expressing my deep appreciation of their splendid and unexpected gift. The broad lines of inquiry undertaken by the Imperial Cancer Research Fund have, we feel certain, influenced the whole nature of investigation at home and abroad. It is recognised that the work is conceived and carried out in a liberal spirit, that whatever facts are ascertained are immediately made known to everyone, that our material is freely placed at the disposal of all who are qualified to use it to good advantage, that our staff is not working for its own ends but with a whole-hearted desire to help on a solution of the problem. From the general superintendent's report we may gather that the result of the research has been to leave behind various vague issues which it was necessary to investigate in order to clear away doubts and to narrow down the issue to a certain definite line of investigation in which the clue to the nature of cancer must be sought. Although many new facts have been ascertained they do not as yet justify hopes of a new treatment. Good progress is being made in a scientific sense, which is, after all, the object of the work, and as scientific research must be sure and accurate so must it be laborious and slow. It is hoped, therefore, that the public will continue by its sympathy and financial assistance to support the work of the Imperial Cancer Research Fund and be willing to exercise the patience necessary for prolonged and systematic investigation. Compared with other diseases, cancer has, alas! such peculiar terrors of its own that impatience for the discovery of the cause and of successful treatment is only natural. But the fact that alleged cures are being submitted to impartial tests, such as the report shows to have been done in the case of trypsin, will, I hope, assure the public that everything will be done to take full advantage of any means that may be discovered to alleviate suffering. Another tribute to the success of the efforts of the fund is the number of applications from skilled investigators to take part in the work. Thanks to the liberality of the Royal Colleges, further accommodation has been placed at the disposal of the general superintendent and he has, therefore, been enabled to add materially to the staff. We have every reason to congratulate ourselves upon having secured the eminent services of Dr. Haaland who previously held the appointment of assistant of the Pathological Institute, University of Christiania. I wish to express my thanks to the chairman and members of the various committees, Dr. Bashford, and the officers of the Fund for the valuable and untiring services which they have given during the past year to the work of the Fund.

EPSOM COLLEGE.

THE annual general meeting of the governors of Epsom College was held at the office, 37, Soho-square, on June 28th, Mr. HENRY MORRIS, the treasurer of the College, being in the chair. Among those present were Sir William S. Church, Sir R. Douglas Powell, Sir Constantine Holman, Mr. J. Paul Bush, Dr. J. Cahill, Dr. Charles Caldecott, Dr. W. Collier, Mr. George Eastes, Mr. D. Powell Evans, Dr. Clement Godson, Mr. R. Charlton Harrison, Mr. H. W. Kiallmark, Dr. F. Needham, Mr. F. H. Short, Dr. St. Clair B. Shadwell, Dr. F. Taylor, and Dr. Nestor I. C. Tirard.

Numerous letters of regret for absence having been read the secretary announced the result of the voting for pensioners and foundation scholars, the successful candidates being as follows :—

PENSIONERS.

	Votes.
1. France, Mary	6118
2. Phillips, Thomas G.	5243
3. Hemingway, Louise	3994

FOUNDATION SCHOLARS.

	Votes.
1. Harlock, Eric D.	13,212
2. Ffrench, Desmond A.	6223
3. Beasley, Henry E.	6219
4. Barr, John W.	5342
5. Ewbank, Charles H. P.	5112
6. Wood, Arthur R.	4857
7. Bland, L. Harry F.	4731

The SECRETARY reported that as vacancies for pensionships had arisen since the voting papers were printed the council would admit at its meeting that day the two applicants heading the list of unsuccessful candidates, so that Mrs. Charlotte M. Nutt would be appointed a Pugh pensioner and Mrs. Emily Worboys would be appointed an ordinary pensioner. The annual report of the council to the governors stated that in the year 1906 there had been an improvement in the income from subscriptions, donations, and bequests as compared with the previous year, with the

result that the income and expenditure account showed a surplus of £836 4*s.* after a further sum of £771 7*s.* 9*d.* in connexion with the drainage and sanitary operations had been deducted. The amount expended on these extensive but necessary works had reached the large total of £8000, and in order to provide this the council had had to part with all stocks belonging to the General Purposes Fund, the only remaining asset being sundry mortgages amounting to £2550. The council regretted to announce that they had lost by death five members of their body—namely, Dr. M. Baines, Sir Joseph Fayrer, Bart., M.D. Edin., K.C.S.I., F.R.S., Mr. D. H. Goodsall, Sir A. W. L. Hemming, G.C.M.G., and Sir Arthur T. Watson, Bart., K.C.; and that Dr. P. W. Latham of Cambridge had felt himself compelled to resign his seat on the council owing to the difficulty of finding the time necessary for the work. Reference was also made to the loss which the College had sustained by the death of Mr. Thomas H. Wakley, F.R.C.S., a vice-president. Since the last annual general meeting the "Robert Armstrong Scholarship" of £60 a year for classics, tenable for three years at the University of Oxford or Cambridge, had been founded, and a legacy of £1000 had been received recently to found the "R. R. Cheyne" annuity for daughters of medical men who are Protestants. The report on the discipline, work, and health of the school was a very satisfactory one. Mr. H. F. Lee, one of the masters, had most kindly presented to the school a sub-target rifle, which would no doubt prove of great value as a means of instruction in rifle shooting. Since the last report S. H. Fazan had obtained a classical exhibition at Wadham College, Oxford, and had since been elected to an open scholarship of £80 at Christ Church; Ff. Roberts had gained a science exhibition of £30 at Clare College, Cambridge. 14 boys had passed the whole or a part of the preliminary scientific examination for the degrees of M.B., B.S. of the University of London; 16 boys had passed the matriculation examination of the same University; 13 boys had gained the higher certificate of the Oxford and Cambridge schools examination board and 37 had gained the lower certificate.

In proposing the adoption of the report for the past year the chairman drew attention to the salient points contained therein and specially referred to the great loss which the council had sustained by the deaths of two members of their body—namely, Sir Joseph Fayrer, who had been interested in the College since the year 1858 and had acted as chairman of the council for 14 years; and Sir Arthur Watson, who had been for 20 years a member of that body, during which period his professional advice was placed unreservedly at their service. He also made special reference to the loss experienced by the College by the death of Mr. Wakley, who had taken a very great interest in the institution since its foundation, and who had rendered material support when the desirable and beneficial change was made by which annuitants were entitled to receive an augmented pension in lieu of rooms in the College at Epsom. He reported the recent receipt of a legacy of £5000, from which the duty had to be deducted, under the will of the late Mr. Charles James Oldham, F.R.C.S., of Hove and observed that absolute requirements at the College in the way of accommodation for science teaching and necessary alterations and additions to the buildings would exhaust that sum, as well as any other gift of a substantial amount that might be received. In conclusion, he stated that the number of boys at present in the College—namely, 263—was the highest on record, and he drew attention to the fact that the greater facilities for the admission of day boys which were provided by the council last year had resulted in an increase in their number, there being at present 20, whilst the lowest point touched in 1906 was 12.

The motion having being adopted, formal business was transacted, including the re-election of members of the council, election of auditors, and alterations and additions to the by-laws.

A vote of thanks to the chairman, moved by Sir WILLIAM CHURCH, and seconded by Sir DOUGLAS POWELL, brought the proceedings to a close.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, LEICESTER-SQUARE, LONDON, W.C.—The silver medal (instituted in 1895 by the Earl of Chesterfield, President of the hospital) has been awarded to Mr. E. J. D. Mitchell, M.A., M.B., B.C. Cantab., for proficiency in dermatology.

ASYLUM REPORTS.

Derby Borough Asylum (*Annual Report for 1906*).—On Jan. 1st, 1906, there were 331 patients in the asylum; of these 149 males and 157 females belonged to the Derby union, and three males and 22 females were scheduled as private patients. During the year 98 persons (46 males and 52 females) were admitted; of these 84 (44 males and 40 females) were chargeable to the Derby union. The average annual admission of rate-supported patients has been 83 for the last five years and 76 since the opening of the asylum, 18 years ago. 47 patients were discharged: as "recovered," 35 (12 males and 23 females); as "relieved," six (two males and four females); and as "not improved," six (two males and four females). The recoveries are at the rate of 41·17 per cent. of the admissions (excluding transfers from other asylums), 30·0 for men and 51·11 for women. There were 37 deaths recorded during the year, 19 males and 18 females, being 11·1 per cent. on the daily average number of patients resident; of these 10 were cases of general paralysis. Dr. S. Rutherford Macphail draws attention to the fact that as the rate-supported patients are increasing at the rate of 10 annually, and as there are now only five vacancies on the male side and six on the female side, the extension of the asylum cannot be delayed much longer. The weekly rate of charge to the Derby board of guardians was reduced on Jan. 1st from 11*s.* 1*d.* to 10*s.* 6*d.* per patient. Private patients are charged 17*s.* 6*d.* and 21*s.* weekly. The farm and garden account shows a credit balance of £273.

Barming Health Asylum, Kent (*Annual Report for 1906*).—The number of patients on the books of the asylum on Jan. 1st, 1906, was 1489 (682 males and 807 females). During the year 1906 there were 407 admissions (180 males and 227 females), the rate of increase being below the average. Mr. H. Wolseley-Lewis has drawn up a table showing the number of patients for whom accommodation has had to be provided during the last 20 years. He states that during the last 16 years, since Lewisham, Greenwich, and Woolwich ceased to belong to Kent, the population of the insane has increased by 874, or on an average of 54·6 patients per annum, and as during recent years the increase has been higher he considers that it is safe to assume that an increase of over 50 beds a year will be necessary in future. Owing to the outcry about the increase of insanity during recent years Mr. Worsley-Lewis has made an analysis to see whether there has been any real increase in West Kent. Taking the figures for the last 15 years of fresh cases of insanity admitted to Barming Heath Asylum he finds that a slightly diminished rate is to be observed, and adds that "when it is borne in mind that many cases are now sent to asylums who previously were kept at home or in the workhouses, and that the population has increased by some hundreds of thousands, this lessened frequency of the incidence of insanity becomes well worth attention." On the other hand, he finds that there is an increase in the number of relapsed cases which are re-admitted. Referring to the causation of the insanity in those admitted during the year 1906, 112 are known to have had an insane inheritance and 42 were senile dements. 199 persons were discharged during the year (89 males and 110 females); of these, 156 (66 males and 90 females) left the asylum recovered, thus giving a recovery rate of 41·3, which is the highest with one exception for 14 years. 11 persons (four males and seven females) were discharged "relieved" and 32 patients (19 males and 13 females) "not improved." There were 186 deaths recorded (92 males and 94 females), giving a death-rate of 12·4. There has been no outbreak of infectious disease during the year. Owing to the satisfactory financial state the maintenance-rate has been reduced 10½*d.* per head per week.

Chartham Asylum (*Annual Report for 1906*).—The number of patients on the books of the asylum on Jan. 1st, 1906, was 1061 (487 males and 574 females). There were 226 persons admitted during the year (114 males and 112 females), making the admission rate about an average one. The discharges numbered 117 (54 males and 63 females). Of these, 85 (36 males and 49 females) left the asylum as "recovered," giving a recovery rate of 48 per cent. for females and 32 per cent. for the males. 12 patients were discharged as "relieved," six of each sex; 18 left "not improved" (ten males and eight females); and two males were returned as "not insane." The number of deaths recorded were 131 (68 males and 63 females), the death-rate being 13·8 per cent. on the male

side and 11·07 per cent. on the female side. There was no outbreak of epidemic disease during the year.

City and County of Bristol Asylum (Annual Report for 1906).—There were 944 patients (418 males and 526 females) on the books of the asylum on Dec. 31st, 1905; of these two males and ten females were private patients. During the year 219 patients (91 males and 128 females) were admitted and of these four females belonged to the private class. The total number of patients who were discharged or died during 1906 was 240 (87 males and 153 females); of these 87 (29 males and 58 females) were "recovered," 54 (seven males and 47 females) were "relieved," two (one of each sex) were "not improved," and 97 (50 males and 47 females) died. The percentage of recoveries on the admissions, excluding transfers, is 41·85. The death-rate on the average number of resident patients was 10·52 (11·93 males and 9·34 females), and is lower than any year since 1901. The asylum is reported to be overcrowded and throughout the year the isolation hospital has been occupied by 20 male patients for sleeping accommodation. The committee states that it has now received the sanction of the Commissioners in Lunacy to its proposed plans for the addition of 90 beds.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8063 births and 3847 deaths were registered during the week ending June 29th. The annual rate of mortality, which had declined throughout the 12 preceding weeks from 17·9 to 12·7 per 1000, further fell to 12·5 in the week under notice. During the 13 weeks of the past quarter the death-rate in these towns averaged 15·1 per 1000, the rate in London during the same period being 14·6. The lowest annual death-rates in the 76 towns during the week were 3·9 in Burton-on-Trent, 4·1 in Hornsey, 6·0 in Leyton, and 6·3 in Willesden; the highest rates were 17·4 in Middlesbrough, 17·7 in Sunderland, 19·2 in Huddersfield, and 19·4 in Bolton. The 3847 deaths in the 76 towns showed a further decrease of 68 from the numbers in recent weeks, and included 427 which were referred to the principal epidemic diseases, against 430 and 365 in the two preceding weeks; of these, 158 resulted from measles, 136 from whooping-cough, 51 from diarrhœa, 40 from scarlet fever, 30 from diphtheria, and 12 from "fever" (principally enteric), but not any from small-pox. The deaths from these principal epidemic diseases were equal to an annual rate of 1·4 in the 76 towns, the rate from the same diseases in London being 1·7 per 1000. No death from any of these epidemic diseases was registered last week in Willesden, Brighton, Plymouth, Southampton, Birkenhead, Halifax, or in 14 other of the 76 towns; the annual death-rates therefrom, however, ranged upwards to 2·9 in Wigan and in Bolton, 3·3 in Walsall, 3·4 in Tottenham, and 4·5 in Warrington. The fatal cases of measles, which had decreased from 214 to 139 in the six preceding weeks, rose again to 158 in the week under notice; the highest death-rates from this disease were 1·7 in Derby, 2·2 in Warrington, 2·7 in Walsall, and 2·9 in Wigan. The deaths from whooping-cough, which had been 130, 124, and 104 in the three preceding weeks, increased last week to 136, the death-rates from this cause ranging upwards to 1·4 in West Ham, 1·5 in Stockport, and 2·1 in Ipswich. The 51 fatal cases of diarrhœa showed a slight decline from the number in the preceding week, and included three cases in Rhondda, equal to a rate of 1·2 per 1000. The deaths from scarlet fever, which had been 37 and 32 in the two preceding weeks, rose again in the week under notice to 40, of which 13 occurred in London, three in Liverpool, and three in West Ham. The fatal cases of diphtheria, which had been 48, 36, and 27 in the three preceding weeks, were 30 last week, the highest proportional mortality from this disease being in Rochdale, where the rate was 1·2 per 1000. Of the 12 deaths from "fever," two occurred in London, two in Birmingham, and one in each of eight other towns. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2862, 2936, and 2985 at the end of the three preceding weeks, had further risen to 3022 at the end of last week; 422 new cases were admitted during the week, against 368, 389, and 414 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 186, 149, and 156 in the three preceding weeks, were again 156 last week, and were three below the corrected average number in the corresponding period of the five previous years. The causes of 34, or 0·9 per cent., of the deaths registered in the 76 towns during the week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Bradford, Hull, and 53 other of the 76 towns; the proportion of uncertified deaths, however, showed a marked excess in Liverpool, Birmingham, Sheffield, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·2 and 17·3 per 1000 in the two preceding weeks, declined again to 15·0 in the week ending June 29th, but exceeded by 2·5 per 1000 the rate in the 76 English towns. The rates in the eight Scotch towns ranged from 10·0 in Paisley and 10·6 in Leith to 17·0 in Dundee and 22·0 in Greenock. The 522 deaths in the eight towns showed a decrease of 78 from the number in the preceding week, and included 76 which were referred to the principal epidemic diseases, against 83 and 84 in the two preceding weeks. These 76 deaths were equal to an annual rate of 2·2 per 1000, which exceeded by 0·8 per 1000 the rate from the same diseases in the 76 English towns; they included 34 which were referred to whooping-cough, 21 to "fever," 13 to diarrhœa, four to measles, three to diphtheria, and one to scarlet fever, but not any to small-pox. The fatal cases of whooping-cough, which had been 57, 43, and 37 in the three preceding weeks, further fell to 34 in the week under notice, and included 20 in Glasgow, six in Dundee, three in Edinburgh, and two in Aberdeen. The deaths referred to "fever," which had been 26, 24, and 14 in the three previous weeks, rose again last week to 21, of which 17 occurred in Glasgow, three in Edinburgh, and one in Dundee; all these deaths, except one in Glasgow, were attributed to cerebro-spinal meningitis. The fatal cases of diarrhœa, which had been eight and 23 in the two preceding weeks, declined again to 13 in the week under notice, and included five in Glasgow, three in Aberdeen, two in Edinburgh, and two in Greenock. The deaths from measles, which had been five and eight in the two previous weeks, decreased last week to four, of which two were registered in Glasgow and two in Edinburgh. Two of the three fatal cases of diphtheria occurred in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 106, 91, and 86 in the three preceding weeks, further fell to 72 last week, but were eight in excess of the number in the corresponding period of last year. The causes of 18, or 3·4 per cent., of the deaths registered during the week were not certified or not stated; the proportion of uncertified deaths in the 76 English towns during the same week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 24·3 and 20·8 per 1000 in the two preceding weeks, further declined to 19·5 in the week ending June 29th. During the 13 weeks of the past quarter the death-rate has averaged 25·4 per 1000, the rate during the same period being 14·6 in London and 17·1 in Edinburgh. The 146 deaths of Dublin residents registered during the week under notice showed a decrease of 10 from the number in the preceding week, and included 11 which were referred to the principal epidemic diseases, against 11, 12, and 19 in the three preceding weeks; of these, eight resulted from whooping-cough, two from diarrhœa, and one from measles, but not any from small-pox, scarlet fever, diphtheria, or "fever." These 11 deaths were equal to an annual rate of 1·5 per 1000, the death-rates during the same week from the principal epidemic diseases being 1·7 in London and 1·5 in Edinburgh. The fatal cases of whooping-cough, which had been four, eight, and five in the three preceding weeks, rose again to eight during the week under notice; while the two deaths from diarrhœa corresponded with the number in the preceding week. The 146 deaths from all causes in Dublin last week included 24 of children under one year of age and 30 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons were fewer than the

respective numbers in the preceding week. Five inquest cases and five deaths from violence were registered; and 59, or more than 40 per cent., of the deaths occurred in public institutions. The causes of five, or 3·4 per cent., of the deaths in Dublin last week were not certified; in London only one death was uncertified, while in Edinburgh the percentage of uncertified deaths was 11·6. The 135 deaths registered in Belfast during the week under notice included six which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: F. A. Brice to the *Good Hope* and E. A. Penfold to the *Terrible* on recommissioning. Staff Surgeon: G. Taylor to the *Terrible*. Surgeons: H. C. Woodyatt to the *Good Hope* on recommissioning; C. E. C. Stanford to R.M. Barracks Dispensary, Plymouth; and C. J. Boucher to the *Argonaut*.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Arthur L. Jones to be Surgeon-Major (dated June 19th, 1907).

IMPERIAL YEOMANRY.

Royal North Devon (Hussars): Supernumerary Surgeon-Lieutenant W. F. L. A. Holcroft resigns his commission (dated May 31st, 1907). Edward Canny Ryall to be Surgeon-Lieutenant (dated May 28th, 1907).

VOLUNTEERS CORPS.

Royal Engineers (Volunteers): East London (Tower Hamlets): Surgeon-Lieutenant J. P. Stewart resigns his commission (dated May 28th, 1907). Edward Canny Ryall to be Surgeon-Lieutenant (dated May 28th, 1907).

Rifle: 19th Middlesex (St. Giles's and St. George's, Bloomsbury) Volunteer Rifle Corps: Supernumerary Surgeon-Lieutenant W. G. Macfee to be Surgeon-Captain, remaining supernumerary (dated June 4th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Woolwich Companies: Robert Corfe to be Lieutenant (dated June 1st, 1907). Black Watch Bearer Company: Lieutenant A. E. Kidd to be Captain (dated June 12th, 1907). Liverpool Bearer Company: Lieutenant S. H. House to be Captain (dated June 3rd, 1907).

THE BIRTHDAY HONOURS.

The following members of the Naval and Military Services have been the recipients of Birthday Honours—viz.: Inspector-General Herbert Mackay Ellis, K.H.P., director-general of the medical department of the Royal Navy, who receives a Knight Commandership of the Order of the Bath, and Colonel Charles Henry Beatson, I.M.S., Colonel George Deane Bourke, R.A.M.C., Deputy Inspector-General Thomas Desmond Gimlette, R.N., and Surgeon-General Francis Wollaston Trevor, A.M.S., each of whom has been made a Companion of the Order. Companionships of the Bath have also been conferred upon Surgeon-General Thomas Tarrant, K.H.P., A.M.S., retired; Deputy Surgeon-General Edward Malcolm Sinclair, late A.M.S., retired; and Deputy Surgeon-General Alfred Eteson, I.M.S., retired, in connexion with the fiftieth anniversary of the Indian Mutiny. Surgeon-Lieutenant-Colonel Warren Roland Crooke-Lawless of the Coldstream Guards, surgeon to His Excellency the Viceroy of India, has been made a Companion of the Indian Empire, and Dr. Jean Etienne Justin Schneider, principal medical officer of the first class in the French army and late chief medical officer to the Shah of Persia and president of the Sanitary Council of Persia, has been made an Honorary Companion of the same Order.

Mr. George R. Smither, acting Consul-General at Barcelona, reports to the British Foreign Office that the Protestant Cottage Hospital, which has done excellent work in that city during many years, receiving as patients both Spaniards and foreigners, has made a new departure in the opening of an isolation ward for infectious cases; this will be a great boon as no such thing exists in the Barcelona General Hospital. The cottage hospital has proved often of great service to British sailors (especially in the convalescent stage) who are received for a small payment.

Correspondence.

"Audi alteram partem."

THE SURGICAL TREATMENT OF CONSTIPATION.

To the Editors of THE LANCET.

SIRS,—Having heard that in some quarters there is a feeling that my criticisms of Mr. Arbuthnot Lane's writings on the surgical treatment of constipation are too severe, I should like to say that I have a most friendly regard for him as a most amiable man and admiration for him as a practical surgeon. It should be remembered that the literature of the surgical treatment of constipation is almost wholly constituted by the writings of Mr. Lane. Nevertheless, it is not very small in quantity. Therefore, when I had to deal with it and found that in my judgment (which, of course, may be worthless) its value was lessened everywhere by what seemed to me a tendency of Mr. Lane's to state his ingenious, and sometimes brilliantly clever, hypotheses just as if they were proved theories and his views as if they were facts, it would have required an intolerably lengthy and dull disquisition to argue about each in detail.

I feel sure no complaint will come from Mr. Arbuthnot Lane, who himself is not unaccomplished in satire, as the following quotation shows: "There is a remarkable tendency to ascribe to the appendix any tenderness present in or about a line which extends from the anterior superior spine of the ilium to the umbilicus and which has been dignified with the name of a distinguished surgeon. Those making this mistake have, however, the satisfaction of knowing that if the appendix is not the cause of the trouble it is freely mobile and its excision involves practically no risk. It can be removed through a very small hole, the comparative minuteness of which gratifies them and the patient, suggesting great operative skill."[1]

Now "those making this mistake" of "a remarkable tendency to ascribe to the appendix any tenderness present in or about" McBurney's point, are the majority of surgeons of talent and experience in the profession throughout the world, many of whom could be named. And they survey the scars of their "interval" appendicectomies in the manner suggested! However, I should feel obliged if you will permit me to say that if any raillery of mine has caused the slightest pain or given offence to anyone of your readers I am sincerely sorry.

I am, Sirs, yours faithfully,

July 1st, 1907. C. B. KEETLEY.

To the Editors of THE LANCET.

SIRS,—I have read Mr. Keetley's lecture on "Conservative Surgery of the Abdomen" with considerable interest and mixed feelings. I regard that lecture as an outburst of rectitude. I suppress Mr. Keetley's adjective because I give him credit for honesty. But the rectitude possesses an angularity that may lead the budding surgeon who takes Mr. Keetley as an apostle into devious devices and damaging disappointments. Mr. Keetley deals with three subjects which he deems suitable for the application of surgical conservatism—the fibroid uterus, the morbid appendix, and the constipated colon. I may be bold, imprudent, or ignorant, but with 25 years' surgical experience behind me I venture to demur to some of the doctrines preached by Mr. Keetley to the West London Medico-Chirurgical Society. I will pass over the first two subjects as not being germane to the object of this communication.

In regard to the surgical treatment of chronic constipation I regret that Mr. Keetley did not confine his remarks to the *subject* of the treatment rather than to the *advocate* of the same. Mr. Keetley has placed "a brilliant teacher," a great surgeon, on a pillory, to be stared at or stoned by the casual passer-by, and while doing so he has shown that he has utterly misconceived or misrepresented the abnormal conditions that Mr. Lane's operation is designed to relieve.

Let me quote Mr. Keetley: "Now, if these were cases of genuine mechanical obstruction there is not much to say against the treatment and there need be no surprise at the results. But in the vast majority of the cases of chronic

[1] THE LANCET, Dec. 17th, 1904, p. 1698.

and obstinate constipation there is either no mechanical obstruction at all, or if there is any it is at the pylorus or even in the small intestine. Was the condition of the appendix vermiformis always carefully noted?"

For mechanical obstruction at the pylorus or in the small intestine other operations, as is well known, are successfully accomplished. The operation which Mr. Lane advocates and performs is for constipation caused by a definite, and I fear, seldom recognised, condition of the intestines. The whole colon is stretched and prolapsed; the centre of the transverse portion generally lies, V-shaped, on the floor of the true pelvis. This becomes loaded with scybala. It is the altered position, combined with weakening of the stretched muscular coat, that presents the "mechanical obstacle," eventuating in almost insuperable constipation. The condition leads to other evils, as dilatation of the stomach, loosening of the kidneys, displacement of the uterus, and the cachexia of auto-infection described by Metchnikoff. Mr. Keetley cannot have read Mr. Lane's monograph, in which the whole pathological condition is described with a lucidity that it seems impossible to misunderstand. I recommend its perusal.

May I give a brief outline of a case that has been under my own observation? A female patient, whose bowels had always been troublesome, suffered from nervous breakdown in 1894, ever since which she was the victim of obstinate constipation, the bowels acting only from medicine at three or four days' interval, great difficulty in evacuation being experienced and a sense remaining of something left behind. She came under my care in November, 1902, suffering from constipation, anæmia, weak heart, and uterine retroflexion. The uterus was replaced and supported by a pessary. For 16 months tonics, aperients, enemata, massage, and dieting were employed without amelioration and in March, 1905, Mr. Lane divided the ileum and anastomosed it with the sigmoid flexure. The appendix was examined and found healthy. Conservative surgery permitted it to remain *in situ*. Since the operation the patient has uninterruptedly improved, she has a good colour, has not much difficulty with her bowels, although the rectum has not recovered its normal tone, and she has been able to resume her work, which had been given up in 1903. Once since I discovered scybala in the cæcum. She was conscious of their presence, but in two days they had disappeared without dire result. This, I have little doubt, occasionally happens. Where is the harm? The answer is supplied by the patient's altered appearance and health.

Does the sequel justify the operation? There can be but one reply. Would an appendicostomy, with its small sinus needing constant catheterisation to keep it open—"and patients are careless"—have produced as good results? That we have yet to learn through a larger experience of cases, for which we may be indebted to Mr. Keetley. He has my blessing and encouragement. Let him persevere and, I hope, lead surgery one more step forward on its happy path. Should he succeed, I know one man who will follow his lead with pleasure and accord him full recognition. He is Arbuthnot Lane. Meanwhile let us not belittle or decry, but treat generously the noble work done up to this present by those who have arduously piled stone upon stone on that edifice of which surgery and civilisation are to-day so justly proud.

But perhaps I have misunderstood. I hope so.

I am, Sirs, yours faithfully,

Reading, June 30th, 1907. J. HOPKINS WALTERS.

GROCCO'S TRIANGLE: PHYSICAL AND ANATOMICAL EXPLANATION.

To the Editors of THE LANCET.

SIRS,—Dr. F. W. Forbes-Ross's contribution from the surgical side is a welcome confirmation of the reliability of this sign as one possessing a strictly "anatomical" basis and a "pleximetric" mechanism. We gather once more from his lucid explanation that the spine and the ribs act as a pleximeter, conveying to the surface the muffled character imparted to the percussion vibrations by a distant contact with fluid. The dull area in question represents (and this applies also to the quadrilateral "lower dorsal dull patch" produced by pericardial effusion) neither the shape nor the locality of the fluid accumulation, which is situated elsewhere, but only, and so far as physical conditions will permit, the shape and the zone of influence of the conductor. This was sufficiently dwelt upon in THE LANCET[1] and in the *Polyclinic* (February, 1906), and it was shown that a proof of the correctness of this explanation is contained in the *clinical crucial test* which has enabled me to rely upon this simple and rapid method for a differential diagnosis of free fluid in the pleura and for a recognition of amounts of it too small to be identified by any other means.

Dr. Forbes-Ross's answer to the question "Why is the dull area a triangle?" calls attention to a genuine factor of dulness apparently not previously noted, as no mention of it occurs in the recent review of the subject by W. G. Thayer and Marshal Fabyan in the *American Journal of Medical Sciences* (January, 1907). It is an obvious and important fact that the width of the vertebral column increases from above downwards, and that therefore the costo-spinal groove with its "dull" muscular contents has its maximum width at the level of the twelfth rib and tapers upwards. There are reasons for not regarding this structural peculiarity as a complete explanation of the "triangle," the angles of which, be it stated incidentally, are absolutely sharp in all my own tracings; but as their statement would involve diagrams and occupy too much space I must reserve further comments on that more theoretical question and conclude with a brief preliminary mention of some points of practical clinical interest. 1. I find that it is possible to percuss out two paravertebral triangles in the same subject when both pleuræ contain fluid, and I possess a series of tracings of these double triangles. 2. Fully developed ascites uncomplicated with pleural effusion also gives rise to a paravertebral triangle of relatively small height and with a rather broad base coinciding with the level of the twelfth rib. *The paravertebral triangle of ascites* may therefore be regarded as an additional physical sign of peritoneal effusion. It is always *bilateral*, and, moreover, perfectly *symmetrical* on both sides. In double pleural effusion symmetry of the two triangles has been quite the exception in my series of cases. It is interesting to note in connexion with the paravertebral triangle of ascites that, inasmuch as the diaphragm is raised, we are provided with a proof that a downward sagging of the pleural sac is not an essential factor in the production of the triangle.

I am, Sirs, yours faithfully,

Curzon-street, W., July 1st, 1907. WILLIAM EWART.

THE MEDICAL FACULTY OF THE UNIVERSITY OF LONDON AND ST. GEORGE'S HOSPITAL.

To the Editors of THE LANCET.

SIRS,—The vote given on Friday, June 28th, by the Medical Faculty of the University of London must, I think, have been given without a full understanding of the negotiations which have taken place between the Senate of the University and St. George's Hospital. In order that there should be no misapprehension of the attitude of this hospital on the subject I would ask you to extend the courtesy of your columns to the inclosed letter, which I addressed on April 22nd last to the Vice-Chancellor of the University at the request of my board.

I feel confident, however, that the Senate of the University is not to be coerced into breaking the definite undertaking which has been given to this hospital, at the bidding of a majority of five, in a meeting of 149 members of the medical faculty, more especially as I learn that a site, valued at £120,000, and £70,000 in cash have been given for the express purpose of erecting the institute which formed the basis of our negotiations.—I am, Sirs, yours faithfully,

A. WILLIAM WEST,
Treasurer of St. George's Hospital.

St. George's Hospital, S.W., July 1st, 1907.

[COPY.]

St. George's Hospital, S.W., 22nd April, 1907.

To the Vice-Chancellor of the University of London.

SIR,—The board of governors of St. George's Hospital have had it brought to their knowledge that some change of policy is likely to be urged upon the Senate of the University of London, with regard to the concentration of the courses of instruction in the preliminary and intermediate subjects of the medical curriculum. The board respectfully beg you to remind the Senate of the University of the following facts. In July, 1905, an arrangement was concluded between the University authorities and the board of this hospital which provided for: (1) the cessation of any courses of instruction in the preliminary and intermediate subjects of the medical curriculum at St. George's Hospital Medical School; (2) the transference of students and of

[1] THE LANCET, July 22nd, 1905, p. 216.

certain teachers in these subjects from the Medical School to othe centres of the University, namely, University College and King's College; and (3) the guarantee on the part of this board of the payment of £500 per annum for three years to the University chest. The board were given to understand that the University had decided definitely to adopt the policy of the concentration of the preliminary and intermediate studies, and that in the near future a further centre for instruction in these subjects would be erected in the immediate neighbourhood of the Imperial Institute; for without this centre there could be no effective concentration, inasmuch as University College and King's College did not meet the requirements of other schools. The representatives of the board pointed out to the delegates of the University that the transference of their students to University College and King's College must act to the detriment of their school and diminish the number of students entering each year, until this third centre had been erected; but they agreed to sacrifice their own immediate interests and adopted the agreement of July, 1905, referred to above, as they felt so strongly that the policy of the University was the right one, and the one most calculated to assist medical education in London and to attract students to the metropolis. They entered into this agreement, however, on the distinct understanding that a third centre of instruction would be erected in the immediate neighbourhood of the Imperial Institute within a few years. They were informed that such a scheme was the settled policy of the Senate of the University, that it had been approved *nemine contradicente* by the Medical Faculty, that an appeal had been issued soliciting funds for such an institute, that His Majesty the King had expressed approval of the scheme and had graciously subscribed to the appeal, that His Royal Highness the Prince of Wales had referred to the matter in terms of appreciation, and that King Edward's Hospital Fund had expressed satisfaction on the ground that such concentration would put an end to the practice of the funds of the charitable public, which were subscribed for hospital purposes, being diverted to the purposes of medical education.

The board is of opinion that any departure from the settled policy of the University in the matter of the erection of a third centre in the immediate neighbourhood of the Imperial Institute would be a grave breach of the contract entered into between the University and this hospital, and they feel assured that the Senate will refuse, when all facts are considered, to countenance any such breach of faith.

I am, Sir, your obedient servant,
(Signed) A. WILLIAM WEST, Treasurer.

*** Our opinion on the question is well known. We believe that the abandonment of the Kensington centre for instruction in preliminary studies is a retrograde movement, and we trust that the Senate of the University of London may yet take this view.—ED. L.

NOTES OF A CASE IN WHICH GLYCOSURIA, DEPENDING UPON CHOLECYSTITIS AND CHOLANGITIS, DISAPPEARED AFTER DRAINAGE OF THE BILE-DUCTS.

To the Editors of THE LANCET.

SIRS,—Mr. W. Gifford Nash has very kindly written to me to say that he has also had a case of glycosuria which was cured by removal of a gall-stone. This was published in THE LANCET, Nov. 1st, 1902, p. 1192. I very much regret that I had overlooked it.

I am obliged to Mr. A. W. Mayo Robson for his suggested correction of the title I gave the notes. The same idea had presented itself to me, but I was afraid the title would occupy more space than the notes themselves. I am sorry to say that, in spite of Mr. Mayo Robson's advocacy, glycosuria not only has been hitherto, but is still, regarded as a bar to operation by nearly all those with whom I have spoken upon the subject.

I am, Sirs, yours faithfully,
Wimpole-street, W., July 1st, 1907. C. MANSELL MOULLIN.

INSURANCE AGAINST SICKNESS.

To the Editors of THE LANCET.

SIRS,—Like everything that comes from his pen my excellent friend Dr. J. G. Glover's letter on the Workmen's Compensation Act does honour both to his head and heart. His feelings towards those who minister to his daily comfort show his splendidly benevolent spirit, while his appeal to the insurance associations to cast their net wider in these days of fierce competition between the different companies, from the point of view of business, is almost certain to succeed. May I venture to suggest one other risk which I have long thought it a pity has not been taken up by insurance offices. I refer to a provision against the chance of insanity, in the shape of an annuity to the insurer when that deplorable event takes place. All the statistics are ready at hand and the only difficulty would lie in estimating with sufficient accuracy the necessary loading of the particular "life" against hereditary tendencies. Take as an example: Suppose an individual with a clean history wished to insure £100 a year in the event of his becoming insane. Suppose, further, he becomes a lunatic and lives in that state of mental aberration for 30 years. The chance of his becoming chargeable is, we know, about 1 in 300. 300 individual guineas would leave an ample profit to the insuring company who had to pay the £100 yearly. And these figures do not take into account that the insurer would not at once become chargeable on the company's funds, but most likely if he began early would have made many payments before he had the misfortune to lose his reason.

Surely, Sirs, of all the ills of life nothing can be worse than for a man or woman in good position, by no fault of his or hers, to have to submit to be cared for by public, or even by private, charity. I have had the lamentable experience of shaking hands with a poor lunatic college classfellow fallen so low as to be herded with paupers. Alas! the pity of it! I have, too, good reasons for not subscribing my name. I enclose my card, and am, Sirs, yours,

A WARM FRIEND OF THE INSANE AND THE HELPLESS.
July 2nd, 1907.

THE NEW VACCINATION ORDER.

To the Editors of THE LANCET.

SIRS,—Your correspondent "Another Public Vaccinator" in your issue of June 29th, p. 1806, asks, "What are the best steps to take to induce the various boards of guardians to grant us a reasonable fee for the services we are called upon to render?" One step is obvious; that all public vaccinators should procure from the Association of Public Vaccinators (the secretary's address is 1, Mitre-court Buildings, Temple, London, E.C.) copies of the article lately issued in your columns, which you have kindly allowed the association to reprint, and of the memorandum issued last week by that association. Copies can be obtained by public vaccinators at cost price and a copy of each document should be sent to every member of every board of guardians; a few shillings would supply each public vaccinator with the necessary copies, if he will take the trouble to address the envelope to the individual guardians. May I be allowed to urge public vaccinators to take this trouble? At such a crisis they must look after their own interests and try to educate the local authorities. Many boards of guardians are ready to treat their officials fairly, but they are ignorant of the requirements entailed by the Vaccination Orders.

I am, Sirs, yours faithfully,
July 3rd, 1907. HERCULES TO THE WAGGONER.

NISBET'S MEDICAL DIRECTORY.

To the Editors of THE LANCET.

SIRS,—May I through your valuable journal ask those medical men who have not returned the circulars issued for this directory to do so, as it will be a matter of regret for all concerned if the information desired arrives too late for insertion. I am, Sirs, yours faithfully,

THE EDITOR OF NISBET'S MEDICAL DIRECTORY.
21, Berners-street, W., July 3rd, 1907.

MISSIONARY HOSPITAL IN PERSIA.—Major C. Ducat, H.M. Consul at Kerman, states in his annual report that the hospital of the Church Missionary Society continues to do good work and is outgrowing its present quarters. The late Governor made a grant of land as a site for a new hospital, but the grant is subject to the confirmation of the Persian Government, which has been applied for. Major Ducat adds: "What proper medical advice means in this country is shown by the fact that the news of the coming of Europeans, all of whom are taken to be doctors, spreads from village to village, and one's camp is besieged almost before it is pitched by people some of whom have come from ten to 20 miles and must have started in the middle of the night. The small European colony remains much the same as last year. The Kermanis are much less fanatical than any of the other Persians and there is no feeling of animosity to Europeans. The Khans and upper class of Persians are most friendly and a large number of the lower class either bow or wish one a respectful salaam."

SOME TURKISH LAZARETS

AND OTHER SANITARY INSTITUTIONS IN THE NEAR EAST.

BY THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.

(With Reproductions of Photographs taken by the Author.)

IX.[1]

THE WATER-SUPPLY OF JEDDAH (*continued*).

Well Waters; Wells in the Town and in the Desert.—Tube Wells.—Mode of Distribution of the Water.—General Inadequacy of the Supply both in Quantity and Quality; Threatened Water Famine.—Decision to put up Condensers.

Well waters.—There are a considerable number of wells in Jeddah, in the courtyards of the houses or "hoches." They are mostly "shallow" wells, and are often situated dangerously close to cesspools in the same yard. There are a few public wells in the streets; they are rarely properly protected from surface impurities. Near the Mecca Gate, however, there is a row of five large, deep wells with good parapets round and the masonry lining in fairly good condition. They may be seen in Fig. 31. Well water in

FIG. 31.

Wells near the Mecca Gate.

Jeddah is always brackish; it is said to be employed solely for washing or other external purposes. Anyone can come and take the water, but it appears to be distributed mostly by the "saggas," or men who carry the water in skins or petroleum tins and sell it at about a penny the large skin, or a halfpenny the petroleum tin.

Outside the walls of Jeddah an infinite number of wells have been dug in the desert. If one goes along the Mecca road for a few hundred yards it can be seen that on either side of the road the desert is literally honeycombed with old wells. The curious aspect this produces is seen in Fig. 32. The depth of these wells varies greatly; some were only ten or 12, others 30 or 40, feet deep. When such a well is dug in the desert the water produced is at first drinkable though rather brackish; at the end of ten or 15 days it becomes still salter and a little later it is absolutely undrinkable. The well is then abandoned and a new one dug. In this way the sinking of wells is a process that never ceases. There are said to be four districts where the wells are most abundant; they are called Kharij-el-Hanesh, Sururia, Gholel (all three to the south of the town), and Nisyan (to the north). The water obtained from these wells seems to putrefy with exceptional rapidity; it is said to be impossible to keep it in a house longer than 24 hours. Some of the wells near Jeddah that I looked into contained only a small quantity of stagnant water at the bottom covered with a green scum.

[1] Nos. I., II., III., IV., V., VI., VII., and VIII. were published in THE LANCET of April 27th (p. 1183), May 4th (p. 1251), 11th (p. 1317), and 18th (p. 1389), and June 1st (p. 1518), 8th (p. 1607), 22nd (p. 1741), and 29th (p. 1810), 1907, respectively.

In 1900 two specialists, one of whom was said to have done successful work at Hodeidah, arrived at Jeddah with the object of making some experimental borings for tube-wells. The first borings were made near the sea, close to the building occupied by the municipality. At a depth of 80 feet they met with salt water. A second attempt, in the northern part of the town, led to no result, as a rocky stratum was met with which their instruments were unable to pierce. Then four wells were bored near the Municipal Hospital. At first each of these borings yielded three tons of water daily; the water is said to have been a little brackish but drinkable. But the yield gradually diminished and the quality of the water deteriorated.

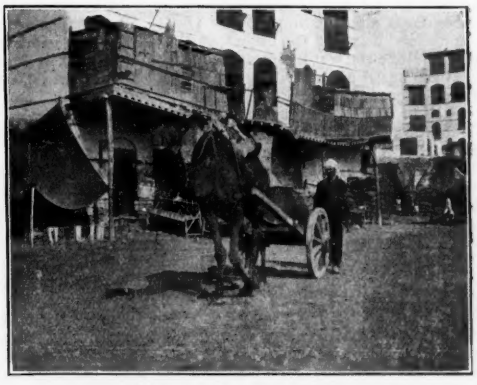
FIG. 32.

Wells in the desert near Jeddah: the road to Mecca on the right between sandhills.

The tubes became more or less blocked with sand, the pumps were too weak, and all were abandoned save one. The tube of this well has a diameter of about one and a half inches. The pump, over which a small shed has been built, is at the free disposal of the public. The depth of the well is only some 12 metres (40 feet), as instruments for a deeper boring were not at hand. The water yielded is slightly brackish. Another well of the same kind was bored in the garden of the Kaimakam (Governor) of Jeddah and still remains; it is only used for watering the garden.

It will be seen from the foregoing that both as regards source and quantity the water-supply of Jeddah is in a very

FIG. 33.



Water-barrel drawn by camel.

unsatisfactory state. The method of distribution of the water is not less unsatisfactory. The water is distributed either in goat- or sheep-skins or in empty petroleum tins; these are carried by camels or donkeys, or (less often) by men called "saggas." The skins retain the complete form of the animal during life, except for the absence of the head; they

have generally been long in use and they give to the water a smell and a taste that are simply disgusting to those unaccustomed to them. Recently, however, the Jeddah municipality has acquired a certain number of barrels mounted on wheels and drawn by camels. One of these is seen in Fig. 33. They are a vast improvement on the old skins and petroleum tins. Similar barrels are in use at Aden for the distribution of distilled water.

In endeavouring to find a permanent remedy for the present unsatisfactory state of the water question in Jeddah it was necessary to bear in mind the following considerations. Springs, cisterns, and wells could not be regarded as offering a sure and permanent solution of the difficulty. As regards spring water, it might perhaps be possible to repair the conduits and to clean the reservoirs; but the sources themselves are dependent on that most uncertain factor—the rainfall. Moreover, the conduits, if repaired, would soon be damaged again by the Bedouins or others unless (an impossible alternative) they were guarded day and night by troops for the whole of their length. The tanks or cisterns are also entirely dependent on the rainfall; they collect surface waters which necessarily contain many impurities. Some of the grosser impurities, it is true, are deposited in the small outer reservoirs, or at the bottom of the tanks themselves; but after long drought, when the water is getting low in the tanks, it becomes quite undrinkable, and even at the best it could scarcely be regarded as a safe water without being boiled, or at least filtered.

The well-water is equally objectionable. Whether artesian wells would give good results at Jeddah is a question that can scarcely be regarded as settled. The tube-wells hitherto sunk never went lower than about 80 feet; the one remaining in use is only 40 feet deep and therefore is still probably only yielding surface waters. Possibly true artesian wells, going, as many of them do, to depths of 500 or 600 yards or more, would give satisfactory results, but the cost of getting the expert labour required and the uncertainty of the result were factors to be considered.

Finally, the best solution of the difficulty appeared to be the provision of distilled water, prepared in large condensers, and my recommendation to this effect has been adopted. The putting up of condensers of necessity involves a considerable initial outlay, but fortunately a way of overcoming this difficulty was at hand. During the past year a public subscription was raised, under the auspices of the Sultan, for the repair of the conduits bringing water to Mecca. Such repair was, I believe, very necessary, but according to local information the situation at Jeddah was a far more urgent one than at Mecca. At the latter the quantity of water had somewhat diminished, while its quality was said to be excellent. But at Jeddah there was neither quantity nor quality; the town was threatened with an actual water famine and was reduced to drinking water of the most unpleasant and dangerous character. So bad, indeed, had it become that the few foreign residents were reduced to the highly precarious resource of obtaining their water from ships calling at the port. The further recommendation to extend the object of the public subscription so as to include the water-supply of Jeddah with that of Mecca has been acted on, and it is hoped that the sum realised will suffice to cover both.

Though costly in the first instance, the putting up of condensers should in the long run prove a very remunerative measure. A large condenser costs some £4000. That at Camaran (mentioned in an earlier article) cost 98,582 francs, including mounting and accessories; two of the Aden distillers cost just under £4000 each. Each of the latter produces about 55 tons of water daily, the former about 60. The Camaran machine burns about 45 kilogrammes of Cardiff coal per ton of water produced; those at Aden about 42 kilogrammes. The staff required need consist only of one European engineer at about £30 a month, and a certain number of native stokers and labourers. At Aden the pay of the staff for running two machines is about £65 a month. If two machines were put up at Jeddah it is probable that they would not work night and day; their total output would, perhaps, be about 80 tons a day, of which (say) 20 tons would be given to officials and 60 tons sold. The total expense, including the cost of coal, pay of staff, repairs, &c., should not exceed some £250 (P.30,000) a month. If the water were sold at the exceedingly low figure of 5*s*. (P.30) a ton it would suffice to sell 1000 tons a month, or 33 tons a day, to cover the cost. The sale of 60 tons a day would produce a clear profit of 27 tons, or, at 5*s*. the ton, £6 15*s*. a day. The total annual profit would be nearly £2500 a year. In practice, however, it is to be feared that this rosy prospect will not be fully realised, from the beginning at any rate. Vested interests are extremely strong; the owners of tanks will do all they can to prevent the sale of distilled water, if they do not actually attack the machines. The people themselves, strongly conservative by nature, will take time to get accustomed to distilled water in place of the other waters they have been used to drinking. In time, however, there should be no question of the distiller or distillers, under proper management, yielding a handsome annual profit. This aspect of the question is, however, in truth, one of secondary importance in comparison with the real necessity, on sanitary and humanitarian grounds, of providing Jeddah with a certain, abundant, and safe water-supply.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Degree Day at the University.

SATURDAY last, June 29th, which marked the end of the academic year, was also marked by the conferring of degrees at the University of Manchester. It was a remarkable fact, for this summer and for Manchester, that the day was fine, and as it was very much a ladies' day the scene in Whitworth Hall was a brilliant one. There was among the recipients of degrees a large proportion of lady Masters of Arts and Bachelors of Arts. Of 44 Bachelors of Arts taking the ordinary degree 30 were women and of the ordinary Bachelors of Science one-third were women. Illness, unhappily, did not allow of the presence of the Chancellor, the Duke of Devonshire. The degrees of Doctor of Laws and Doctor of Science respectively were conferred on Baron Kikuchi, late Minister of Education in Japan, and Dr. Hales, the eminent American astronomer and professor of astrophysics in the University of Chicago. The other degrees were then conferred. It is somewhat interesting to note that the D.Sc. and M.D. degrees, four and five in number respectively, were bestowed on men only, while the other degrees were bestowed on both men and women. In zoology the one candidate was a lady and in botany the five candidates were ladies. In the annual statement circulated by Dr. Hopkinson, the Vice-Chancellor, the number of students in the various faculties of the University was stated as follows: All faculties except medicine and technology (including 262 women students), 906; faculty of medicine (including 14 women students), 325; and faculty of technology (including three women students), 167; 50 students entered both for science and medicine. In addition to these there were 226 persons attending evening classes, 115 attending lectures on railway economics, and about 200 attending courses of lectures on law and economics at the Bankers' Institute. This very insufficient statement is enough to show the activity prevailing in the University and the influence which it is destined to exercise over the wide area from which its alumni are drawn.

Unsound Meat.

As long as there are rogues it may be taken for granted that attempts will be made to sell bad meat for good and to induce people to eat all kinds of abominable and unwholesome stuff. It is well, therefore, that the markets committee of the Manchester corporation affords some protection to the public against the slink butchers and others of like mind. The need for this protection is shown by the following facts. During the four weeks ending on May 25th last, 17,820 pounds of meat were condemned in the abattoir and carcass market, 399 pounds in private slaughter-houses, 32 pounds in the Rusholme abattoir, 20 pounds in the triperies, and 14,153 pounds in the fish markets. Rabbits, black game, ducks, hares, and vegetables were also condemned in some few cases. During the month the inspectors made 1212 visits to the meat, fish, fruit, and provision shops in the poorer parts of the city.

Rotten Grain and the Chickens.

The law, it appears, allows of spoiled or rotten grain being used for feeding our domestic fowls, if not for our own feeding. The Manchester port sanitary authority has from time to time condemned a small percentage of the

grain cargoes at the docks, and this damaged grain heats and forms a fine soil for the growth of moulds and bacteria. To prevent its use for human food the medical officer and inspector see it to its destination, and it appears that this rotten grain, "which contains considerable colonies" of dangerous bacilli, is used for making some kind of poultry food. It is not a pleasant idea that the chickens which one buys may have been fed on revolting and unwholesome refuse and that eggs are eaten which come from fowls fed on the same undesirable kind of stuff.

St. Mary's Hospitals.

The annual meeting of the friends and supporters of the St. Mary's Hospitals was held on June 19th. The work which had been done during the last year was extremely heavy but, as usual, while the work presses forwards the means for carrying it on lag behind. The expenditure last year was £10,908, while the total income was only £6956, leaving a net deficit on the year's working of £3952. At the end of 1905 the deficit balance was £8763. There is a further deficit balance of £12,400 remaining on the building account of the hospital in Whitworth-street West which has been transferred to the general account, so that the total adverse balance at the end of 1906 amounted to £25,000. Towards meeting this, £12,000 out of capital funds have been drawn on, which, of course, means a smaller income from investments. Expenses are being curtailed; the Clifford-street Hospital—i.e., the old Southern Hospital—is to be closed and the gynæcological and children's beds transferred to Whitworth-street West till the new hospital in Oxford-street and High-street is ready for their reception. An earnest appeal was made for generous help, the chairman reminding the public that if the work of St. Mary's Hospitals was not done there was no other existing institution to take it up. These hospitals have always done an unostentatious but most valuable work for the poor mothers and children of Manchester, and if more of the well-to-do people of Manchester thought about it and tried to realise it there would be no difficulty in getting the help required.

Medical Man and the Midnight Visitor.

Dr. G. E. Orme of Clitheroe had an exciting adventure on the night of June 27th. He went to his bedroom about midnight, when a man without his shoes dashed past him towards the stairs. Dr. Orme followed, threw his suspicious visitor, and held him till a policeman, telephoned for by Mrs. Orme, arrived and took the man into custody.

July 3rd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Treatment of Tuberculosis at Merthyr Tydvil.

THE Poor-law inspectors of the Local Government Board have upon several occasions reported upon the excellent administration of the infirmary which is attached to the workhouse at Merthyr Tydvil. The medical officer to this institution, Mr. J. L. W. Ward, opened a discussion upon the best methods of treating tuberculous patients by Poor-law authorities at a conference of members of boards of guardians held at Merthyr on June 26th. While recognising the necessity for improving the houses and the surroundings of the working classes Mr. Ward considered that the evidence in favour of sanatorium treatment of the disease was undeniable. He advocated the establishment of inexpensive buildings in connexion with workhouse infirmaries where selected cases could be properly treated. In the Merthyr Infirmary, where there does not appear to be any special provision made for these patients, there were treated during the past three years 128 cases of pulmonary tuberculosis, of which number 47, or 36 per cent., terminated fatally.

Sanitation of Aberdare.

Notwithstanding the high death-rates which have been recorded in Aberdare in recent years, together with the prevalence of infectious disease and an unusually high rate of infantile mortality, the urban district council has shown little or no desire to improve the sanitary condition of the town which has a population approaching 50,000. The recently issued report of Dr. J. Spencer Low, a medical inspector of the Local Government Board, appears to have stimulated the council to activity in some directions. At a special meeting of the authority held to consider the recommendations contained in the report it was decided to take steps to provide a proper isolation hospital. This decision was apparently come to with reluctance, for one member of the council remarked that he "did not like to waste the ratepayers' money, but in this case it could not be avoided." Other recommendations of Dr. Low were either referred to the health committee or their consideration was deferred.

Vaccination Fees at Warminster.

At the meeting of the Warminster (Wiltshire) board of guardians, held on June 24th, it was resolved not to reduce the fees of the public vaccinators in October next. This course was adopted owing to the fact that the public vaccinators of the Warminster union were the only ones in Wiltshire who, in 1898, accepted the minimum fees allowed under the Act.

The Pharmaceutical Society and the Sale of Poisons.

At the Plymouth county court on June 26th a druggist's assistant was summoned for having sold poison contrary to Section 15 of the Pharmaceutical Act of 1868. Evidence showed that the defendant had sold cough medicine containing morphine and he was fined £5 and costs. The prosecution was instituted by the Pharmaceutical Society.

Paignton Waterworks.

The works at Holne Moor, Dartmoor, constructed at a cost of £111,000 for the Paignton urban district council to supplement the water-supply of Paignton, and also to afford supplies to Teignmouth and Brixham, were formally opened on June 26th by Mr. Layland Barratt, M.P., in the presence of a large gathering.

July 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Work and Objects of a Nurses' Training Home.

CONSIDERABLE dissatisfaction is being expressed by the medical practitioners in Govan in connexion with the methods adopted at the Nurses' Training Home and the questions involved are of wide general interest. The home provides nursing in their own cottages for the working classes and poor in the district of Govan and elsewhere and trains women as cottage nurses and certificated midwives for work in rural and other districts. In the home lectures are given to the nurses by medical men and instruction in nursing is given by the matron. The practical experience is gained by the pupil nurses going out to nurse patients in their own homes, either with or without the supervision of a medical man. In some cases the nurse resides in the patient's house but in most cases the nursing is done by visits to the patient once or twice daily. The midwifery training is by lectures in the home from a medical man and by practice on patients in the neighbourhood under the supervision of the midwife of the home. This period of training extends in all to six months and is supposed to be sufficient to enable the students to be sent to country districts as cottage nurses and rural midwives. It is contended for the system that a body of nurses is being trained who can undertake in the houses of the working class and poor duties such as cooking, washing, and the care of children in addition to the nursing of the patient. The minimum fee for the midwife is 7*s.* 6*d.*, and this is supposed to be restricted to houses where the householder's average weekly wage does not exceed 30*s.* The contention of the medical men of the district is that the home enters into unfair competition with the medical men, seeing that cases other than maternity ones are being treated by the nurses without a medical man in attendance, whilst in deciding what houses are eligible to be attended by the nurses no account is taken of the income of the family. It is also suggested that the real aim of the home is not so much the benefit of the poorer inhabitants of Govan as the turning out into country districts of women imperfectly trained as nurses and midwives. The executive committee of the home was approached by the Govan Medical Association in connexion with the matter, but although some concessions were made as regards the rules regulating the relations of the nurses to their patients, the medical practitioners of the district think that they still have grounds for dissatisfaction.

St. Andrew's Ambulance Association.

The annual report of this association shows that during the past year 7874 calls have been made on the wagons of the association, the total number of patients conveyed since its formation being now 85,150. In Glasgow alone the number of calls was 5195, representing an average of 14·23 turns out daily. Of these, 3155 were to accidents and 2040 to cases of illness. Lord Blythswood has accepted the honorary presidentship of the association in place of the Marquis of Breadalbane, recently resigned.

Death by Lightning.

During the thunderstorm last Saturday a distressing fatality by lightning occurred on Lethamhill golf links in the neighbourhood of Glasgow. At the time of the occurrence the weather was dry, and though the sky was lowering there was nothing to indicate the near approach of thunder. The unfortunate player was in the act of playing a mashie shot when there was a vivid flash of lightning which struck him. The lightning passed through his body, making a hole as if caused by a bullet in his head. The hair of the right side of the head and moustache was burned, and blue marks, by which the course of the current could be traced, were noticeable on the inside of the left thigh, the left knee, and both feet. The clothing was reduced to longitudinal shreds, buttons were detached from some of the garments, the soles were torn from the boots, and the works of a watch which he carried were shattered, although the gun-metal case was not affected. The lightning made a hole in the ground about six feet square and one foot deep. The club along which presumably the current travelled was undamaged. The unfortunate man's partner, who was standing some yards away, was thrown heavily to the ground but escaped with the shock.

Bacteriological Investigations in Cerebro-spinal Fever.

An interesting report has just been issued by Dr. R. M. Buchanan, bacteriologist to the city of Glasgow, in connexion with cerebro-spinal meningitis. For some time past cerebro-spinal fever "contacts" have been subjected to a systematic examination for evidence of the meningococcus, and for this purpose swabs have been taken of the secretion of the naso-pharynx. The principal difficulty has hitherto been that in the throat there exist several organisms closely resembling the meningococcus, but Dr. Buchanan believes that he has now obtained a nutrient medium which serves to demonstrate the organism in the throats of a certain proportion of patients and "contacts" within two to three days. During the month of May eight cases of cerebro-spinal meningitis came under bacteriological investigation for verification of the diagnosis, and in seven of these the meningococcus was demonstrated. The "contacts" examined during the month numbered 81, representing 20 families. In 12 of these families an organism was found in the throat, which had all the microscopical and cultural characters of the meningococcus. In five of the families it was found in one individual, in six of the families in two individuals, and in one family in three individuals—giving 20 positive results in the 81 "contacts." These results have principally been got in adults. In addition, the naso-pharyngeal secretion of seven patients and four convalescents—all verified cases—was examined. The meningococcus was found in three of the patients on the twenty-third, twenty-sixth, and sixty-first days of illness respectively, and in all the convalescents on the seventeenth, thirty-fifth, fifty-sixth, and seventy-fifth day from the onset of their respective illnesses. These results serve to indicate that the disease may be carried and spread by individuals who offer no evidence of its presence and that it may remain for a long time in the throats of individuals who are recovering from the disease.

Medical Appointments in Glasgow.

Dr. W. R. Jack has been appointed an assistant physician to the Western Infirmary. Dr. Ivy McKenzie has been appointed lecturer on medicine in the Western Medical School in place of Dr. John M. Cowan who has gone to Anderson's Medical College as professor of medicine.

Legacies to Blairgowrie Institutions.

By the death of Mr. John Scott of Blairgowrie the Blairgowrie and Rattray Districts Cottage Hospitals have benefited to the extent of £1000.

The late Dr. George Yeaman.

Glasgow has lost one of its oldest and most highly respected practitioners in the person of Dr. George Yeaman, who died at his son's residence in Hanley on June 19th. Dr. Yeaman took his M.D. at the University of Glasgow in 1854 and had a long and honourable professional career, having at one time held the posts of assistant physician to the lying-in hospital and physician to the Dispensary for Diseases of Women and Children.

Forfarshire Medical Association.

At the annual meeting of this association, Dr. W. J. Dewar, the President, being in the chair, the following were elected office-bearers for the ensuing year:—President: Dr. A. Key (Montrose). Vice-Presidents: Dr. D. Paton (Carnoustie), Dr. J. Rorie (Dundee), Dr. J. A. Dewar (Arbroath), and Mr. P. Steven (Dundee). Secretary: Dr. J. W. Miller (Dundee). Treasurer: Dr. W. E. Foggie (Dundee). The retiring President gave a lecture on Midwifery and General Practice. Next year will be the jubilee of the association and the meeting will be held in Dundee.

Resignation of the Medical Officer of Health of Stornoway.

At a meeting of the Lewis district committee the resignation of Dr. Charles M. Macrae, medical officer of health of the parishes of Stornoway, Lochs, and Uig, was considered and accepted with regret. Dr. Macrae has been connected with public health matters in Lewis for a period of almost half a century. A committee was appointed to draw up a minute expressing the appreciation of his long and valuable services and the clerk was instructed to forward a copy to Dr. Macrae. Dr. W. Bruce, county medical officer of health, Dingwall, was appointed to the vacancies.

Aberdeen Deaf and Dumb Institution: Annual Report.

The annual report for the above institution for the year 1906 shows that at Nov. 30th, 1905, the beginning of the financial year, there were 25 scholars and at the end 20. Eight children left during the year, their education having been finished, and three were admitted. The principal mode of instruction was by the sign and manual method, but each child was taught lip-speaking and reading and some of the children became very proficient in both. Kindergarten was also taught together with hand and eye training. Five boys were taught carpentry work, bench work, fretwork, and clay modelling with cast, and all the girls were taught drawing and painting. The Government grant for the year was £133 16*s.* 3*d.*

July 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Health Questions in Belfast.

ONE of the questions specially raised before the Belfast Health Commission was the want of knowledge on the part of the health authorities of the *locale* of disease. It appears now that the public health committee of the city has had a communication from the Local Government Board of Ireland to this effect. The Local Government Board will be prepared to receive an application from the committee that an order should be made (under Section 11 of the Public Health Act, 1878) amending the duties of the registrars who are medical officers of health, so as to include the duty of making returns to the superintendent officer of health of the deaths occurring in their respective districts. As a result on June 25th a deputation from the public health committee conferred with the Local Government Board in Dublin, other topics coming up for discussion being the proposed substitution of ashbins for ashpits and the reservation of beds for the use of the corporation in the Forster Green Consumption Hospital. The deputation, which was sympathetically received, was advised to approach the Registrar-General of Ireland, as the Local Government Board considered it was the Registrar-General's duty to demand from the local registrars a copy of all deaths registered by them. The Local Government Board said that a communication had been received from a member of the corporation objecting to the arrangement entered into with the Forster Green Hospital, which would be sent to the public health committee to consider; and as to the introduction of ashbins, while the Board was greatly in favour of more frequent removal of house refuse it recommended that a case should be submitted to counsel for his opinion and then forwarded to the Board for its consideration.—At a meeting of the public health committee held on June 27th it was reported

that for the week ended June 22nd 16 cases of cerebro-spinal meningitis had been notified, as compared with 17 in the previous week. Since the last meeting of the committee (June 20th) 14 cases of cerebro-spinal meningitis were notified, as against 17 during the previous week, and during the week ended June 22nd 20 deaths were registered as being caused by the disease. Of 84 patients in Purdysburn Fever Hospital 39 were suffering from the disease, 15 from scarlet fever, and 19 from typhoid fever.—Cerebro-spinal fever has broken out among the militiamen in Ballykinlear camp, near Newcastle, two cases having been removed to Purdysburn. Typhoid fever has also broken out amongst the troops in the barracks at Holywood, near Belfast.—At a meeting of the city corporation of Belfast, held on July 1st, the report of the medical superintendent officer of health for the period from May 19th to June 15th was read and from it it appears that the number of cases of infectious diseases notified during the four weeks was 192, as compared with 305 in the preceding five weeks, the most marked decrease being in the number of cases of cerebro-spinal meningitis, which numbers 74, as compared with 139. There is a slight increase in the number of cases of erysipelas, whilst the number of cases of typhoid fever and membranous croup is about the same. The average annual death-rate from all causes was 21·9. Attention was drawn to the fact—by the chairman of the baths and lodging house committee—that while a few weeks ago they proposed to admit school children to the baths free of charge on one day of the week, up to the present the Commissioners of National Education had not agreed to the proposal.

Down District Asylum.

From the report of this asylum for 1906 it appears that during the year 468 men and 389 women were under treatment. Mr. M. J. Nolan, the resident medical superintendent, does not think there has been any actual increase in insanity in the district. His views on the causes of insanity in Ireland are interesting and I give them in full:—

> In a country on which the scourge of insanity has fallen with such an unusually heavy hand the local circumstances of this county are such as to enable it to resist, with some degree of success, the inroads of this terrible evil; and so we may, perhaps, learn the lesson that the prevention of insanity is to be achieved, if achieved at all, by an all-round improvement in the social life of the people. Freedom from the worst miseries associated with dire poverty, from the wearing strain of agrarian agitation, and, above all, from the mental unrest associated with rapidly declining prosperity (evident in the less fortunate districts), all combined with a marriage- and birth-rate higher than the average, a decline in the emigration rate, and a generally fairly prosperous condition of things, due in a great degree to the characteristics of the people themselves, the county of Down stands in the satisfactory position of having but one registered lunatic in 216 of its population, at a time when the average in the country is one in 178.

The average cost of each patient for the year was £22 15*s.* 4*d.*, while the net average cost, deducting repayment of loans, receipts from paying patients, and other miscellaneous receipts from the gross expenditure, was £20 9*s.* 1*d*, as against £22 2*s.* 4*d.* in the previous financial year—a reduction of £1 13*s.* 3*d.* per head. In every respect this report of Mr. Nolan is a most interesting and satisfactory one.

July 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Fractures of the Claviole.

THE papers read at the meeting of the Surgical Society on June 12th included one by Dr. Couteaud of the Naval Medical Service on the treatment of fractures of the clavicle. For several years he has treated these fractures by rest in bed, the shoulder of the side affected being at the same time placed in a certain position. This method was not only in accordance with physiological principles but was efficacious and capable of being put in practice by anyone. Complaints have been made that it was uncomfortable but this was a trivial objection to a surgical procedure which aimed at the avoidance of deformity (*chirurgie esthétique*). Allowing the arm to hang vertically over the edge of the bed caused relaxation of the contraction and stiffness of the muscles of the shoulder, a condition which was advantageous for coaptation. Swelling of the upper limb was therefore to be desired rather than feared, but it seemed to be unnecessary to maintain this attitude for more than two or three days, and it was better at the end of this period to bend the elbow and allow the forearm to rest on a pillow; this position was certain to bring about the automatic juxtaposition of the fractured ends. The œdema which this method of treatment caused was of no serious importance, being of brief duration and easily relieved. Dr. Couteaud recommended that rings which the patient might be wearing should be removed. The duration of the treatment varied from 15 to 21 days.

Blackening of the Tongue caused by Peroxide of Hydrogen.

At a meeting of the Paris Society of Medicine held on June 8th M. Bizard read a paper on blackening of the tongue. The remarkable condition, to which Walerand has given the name of *langue noire pileuse* (hairy black tongue), seemed to be produced by very different causes, about most of which there was little definite knowledge. Many of the cases proceeded simply from foreign substances accidentally colouring the extremities of hypertrophied papillæ. Of this kind was the instance observed by Chatin, in which there was a decided black tint of the dorsal aspect of the tongue in several syphilitic patients who were taking mercury and making use of a gargle containing diluted peroxide of hydrogen. In the course of a week M. Bizard saw blackening of the tongue in two syphilitic patients under his care who were treated with injections of grey oil and mouthwashes of a solution of peroxide of hydrogen. It might have been supposed that the peroxide of hydrogen on coming into contact with the saliva of the mercurialised patients gave rise to a reaction which produced a brown colouration of the extremities of the lingual papillæ, but the fact was that peroxide of hydrogen might by itself cause blackening of the tongue. In a man habitually enjoying good health, not syphilitic, and free from constitutional defects, but a smoker and the subject of hypertrophy of the lingual papillæ, the daily use of a gargle of peroxide of hydrogen in half a tumblerful of warm water produced in eight days a very pronounced blackening of the dorsal aspect of the tongue. This disappeared in a few days when the peroxide of hydrogen was stopped and the surface of the tongue soon afterwards desquamated in large flakes.

Suggested Employment of Radioscopy and Radiography in Meat Inspection.

Calcareous deposits are readily formed in the tuberculous lesions of the ox and the pig, and at a meeting of the Academy of Sciences held on June 12th M. Martel suggested that the recognition of such deposits by means of the Roentgen rays might be useful as an indication of deep-seated isolated tuberculous centres, especially in the interior of the superficial or deep glands which were always more or less imbedded in fat. When the meat could be conveniently spread out for examination radioscopy clearly showed the tuberculous portions. Healthy glandular tissue cast little shadow with the rays as it was almost transparent to them, but tuberculous glands cast a shadow of granular appearance varying in intensity according to the amount of calcareous infiltration. Isolated lesions were recognised by their shadows having the granular aspect which indicated the presence of salts of lime. Meat which gave a negative result on examination with the Roentgen rays might, however, be tuberculous. Proper allowance being made for its limitations, the method had the advantages that the meat did not require to be cut and that the examination took very little time.

The Medical Profession in Narbonne.

I do not propose to refer to the political unrest and agitation in the south of France except in so far as it has affected the medical profession. The military authorities having refused to supply the medical men of Narbonne with the passes necessary to enable them to visit patients in the disturbed districts these practitioners have published a letter informing the townspeople that they cannot promise to attend patients regularly in the area occupied by the troops. They have also published the letter in which their request for passes was refused. It has been the practice for three practitioners to be selected by the military authorities each month for the purpose of giving advice with respect to the discharge of soldiers unfit for service (*réforme*), but a meeting has now been held at which it was resolved to discontinue this work. The practitioners also refuse to attend the gendarmes of the district.

Officinal Preparations of Mistletoe.

M. R Gaultier, in presenting to the Therapeutical Society a work sent by M. Delassus, said that he had himself observed a distinct and long-continued reduction of the arterial pressure when pills containing aqueous extract of mistletoe were administered. Some fresh clinical facts induced him to consider this substance as hypotensive

July 1st.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Practitioners' Association.

THE German Medical Practitioners' Association held its annual meeting of delegates on June 21st and 22nd at Münster in Westphalia, under the presidency of Professor Löbker of Bochum. The President, in his introductory address, pointed out that the question of sick clubs, and especially the introduction of the free-choice system, continued to be an important subject of interest for the medical profession in Germany. Although this system was making marked progress (it has recently been introduced by certain railway authorities for their employees) it still had many active adversaries. Medical men engaged at fixed salaries by sick clubs feared that they might lose a portion of their income under the free-choice system. The extension of the compulsory membership of clubs, as contemplated by the Government, would still more restrain free practice. At the present time more than one-third of the population of the German Empire belonged to sick clubs. It was said that the Government would propose to include domestic servants, agricultural labourers, and other persons earning less than 3000 marks (£150) per annum under the workmen's insurance law. Should this intention be realised, then in the Prussian province of Saxony the whole population except 4·7 per cent. would be compelled to become members of sick clubs. It was obvious that the carrying into effect of such a law was impossible without the collaboration of the medical profession. Dr. Pfalz of Düsseldorf gave an account of the existing relations between the clubs and the medical profession and refuted the arguments of the adversaries of the free-choice system, especially their assertion that the expenses were too high for the clubs. A principal point of the discussion concerned the question whether the medical men appointed at fixed salaries as medical officers to clubs should be entitled to compensation in the event of losing their present positions in consequence of the introduction of the free-choice system. A motion was finally adopted to the effect that the free-choice system ought to be introduced by law and not (as has been hitherto the case) optionally and by agreement with the clubs; that the law should contain a provision to the effect that the rights and duties of the medical men engaged in club practice must be determined by the local representatives of the profession, together with the representatives of the clubs, excluding in this way any preponderance of the club committee; that a club should not have power to dismiss a medical man but that complaints or cases of alleged misconduct must be brought before a court of arbitration; and that the medical men acting hitherto as officers of the clubs should have the income of the previous year guaranteed in the event of the introduction of the free-choice system provided that they continued their club practice under the new system. Another subject of discussion concerned the fees for certificates for private insurance companies. It was agreed that the minimum fee should be 10 marks (10*s.*). With regard to medical practice by unqualified persons, a motion was adopted to the effect that it ought to be prohibited by law.—The Leipziger Verband, an association of medical men modelled in some respects on the lines of a trade union and possessing a large strike fund, held its annual meeting the day before the meeting of the Practitioners' Association. Both organisations, which in the beginning were rather hostile to each other, have now joined in mutual coöperation. The members at the present time number 20,000, including thus nearly every medical man engaged in practice. The Verband has 124 sections and 1113 local delegates. It was reported that 3374 appointments and vacant practices were obtained for members by the instrumentality of the Verband. The shipping companies' union has undertaken to appoint medical officers to passenger vessels only under the conditions laid down by the Verband. Since its existence the Verband has dealt with 594 disputes between clubs and the medical profession, of which the result was favourable to the profession in 464 cases and favourable to the clubs in 16 cases, whilst in 114 the matter is not yet decided. The Verband has petitioned the War Office to prohibit army medical officers undertaking the work of civilian practitioners. The general staff-surgeon, as head of the Army Medical Corps, has replied that civil practice could not be closed to the army medical officers but that the War Office has issued an order prohibiting army medical officers from applying for civil appointments under other conditions than those approved by the local profession.

Deaths of Medical Men.

Dr. Theodor von Jürgensen, ordinary professor of medicine at Tübingen, died in that city on May 8th. He is known as one of the early promoters of hydrotherapy in Germany. As early as 1866 he recommended the treatment of enteric fever by cold baths and at a subsequent period the treatment of pneumonia by the same method. He has published many works and essays, of which the principal are an essay on the temperature of the healthy individual; on pneumonia, which as early as 1874 was regarded by him as an infectious disease; on septicæmia of obscure origin; on acute exanthemata, &c. He was born in 1840 at Flensburg in Schleswig, being the son of a medical practitioner. He received his professional education at the universities of Kiel, Breslau, and Tübingen, and after becoming qualified was appointed an assistant at the medical clinic at Kiel, where he was recognised *privat-docent* in 1864. In 1869 he became extraordinary professor at the University of Kiel and in 1873 ordinary professor at Tübingen, where he passed the remainder of his life.—The death is also reported of Dr. Litten, extraordinary professor of medicine in Berlin and chief physician to the municipal branch hospital. Professor Litten was born in 1845 and became qualified in 1870. He served in the war with France and then went for study to Vienna, Prague, London, and Edinburgh. He afterwards became an assistant to the celebrated Professor Cohnheim at Leipsic and Professor Fredrichs at Berlin. In 1897 he became chief physician to a municipal hospital. His principal work concerned the relations between accidents and internal diseases, especially pneumonia as a sequel to contusion of the thorax and traumatic endocarditis.

July 1st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The International Congress of Physical Therapeutics.

AN exceptionally strong organising committee is at work on the preparations for this Congress, the second of its kind, which will be held in Rome from the middle of October to the close of the third week of that month. Its president is the Senator Guido Baccelli, professor of clinical medicine in the Roman School, and among his assessors are Dr. Leon Bianchi (medical psychology), Naples; Dr. Camillo Bozzolo (institutes of medicine), Turin; Dr. Antonio Cardarelli (clinical medicine), Naples; Dr. Achille De Giovanni (clinical medicine), Padua; Dr. Enrico de Renzi (clinical medicine), Naples; Dr. Francesco Durante (clinical surgery), Rome; Dr. Pietro Grocco (theoretical and practical medicine), Florence; Dr. Eduardo Maragliano (medical pathology), Genoa; Dr. Augusto Murri (clinical medicine), Bologna; Dr. Enrico Morselli (medical psychology and therapeutics), Genoa; Dr. Gianbattista Queirolo (clinical medicine), Pisa; Dr. Eugenio Rossoni (medical pathology), Rome; Dr. Augusto Tamburini (psychiatry, systematic and clinical), Rome; and many others, among whom I may mention the professor of medical hydrology in the Roman School, Dr. Paolo Casciani. All those of the profession who give in their names to the general secretary of the Congress, Professor Carlo Colombo, No. 1, Via Plinio, Rome, inclosing an order for 20 francs as titular members (lady associates being admitted on the same conditions for 15 francs), will be entitled to a "libretto di scontrini" (book of railway tickets) enabling them to travel from one end of the Peninsula to the other at fares reduced from 40 to 60 per cent., available from Oct. 1st to Nov. 15th. This provision was devised in concert with the Minister of Public Works by the organising committee with a view of facilitating the visits of foreign members of the Congress to the various health resorts of Italy by way of enabling them to realise the resources of the kingdom in climatic stations, in "sun-traps" on the seaboard, and in balneary institutions, thermo-mineral and other. Annexed to the Congress in Rome there will be open to all members an "Esposizione Speciale di Apparecchi per Cure Fisiche, Acque Minerali, &c.," at which there will be on view all the latest appliances and apparatus in electro-therapy, photo-therapy, medical gymnastics, orthopædics, and so forth. Add to this a complete assortment of specimens of the various mineral waters known to science, "prodotti

termali," and other products, alimentary and hygienic, relating to physical therapeutics, dietetics, balneology, and climatology, and together with these a collection of plans, designs, photographs, descriptions, coloured and printed, and monographs illustrative of the various health resorts, climatic stations, and balneary "cures," and some notion will be formed of the attractions offered to those of the profession who are interested in this department of medicine. Among the exhibitors at this exposition many leading houses in France, Germany, the British Isles, and America will be represented alongside those of Italy in the *locales* specially provided *ad hoc*, namely, the suite of rooms attached to the Clinica Medica of the Policlinico, with the addition of others should these prove insufficient. For all exhibits intended for this Exposition the Minister of Public Works has conceded a reduction of 50 per cent. on the charge of transport over all the railway lines of Italy, a reduction which will include not only the journey in but the return journey out, should the said exhibits not be disposed of at the Exposition. Finally, a special jury is being organised to appraise the competing exhibits and to award the prizes and marks of distinction among the competitors.

The Alpine "Accident" Season.

I learn from Bellinzona, the capital of Italian Switzerland, that this "season" has made its normal commencement in the "playground of Europe." All the favourite peaks are being "stormed" by adventurous climbers, many of these latter hailing from Italy, where the "furore" for Alpine exploration has reached the point of an "obsession." Two parties have successfully scaled the Matterhorn, one party Mont Blanc, and another the Jungfrau. There are, however, three "casualties" to be registered. A young lady (aged 22 years) has been killed by a fall of 80 metres on the mountains of Andey; a gentleman has lost his life similarly by a fall on the rocks of Chez-Marqueret; and a boy, aged 18 years, from Göschenen, while gathering flowers in the mountain valley of Ossemburg also lost his footing with fatal consequences.

The Civic Honours to Lord Lister.

No foreign name is more honoured among Italians than that of the "Inventore della Medicazione Antisettica," except it be that of Pasteur. Thanks to these two "heroes of science" the surgeon's art in Italy, always conspicuous for its "assured touch" and its "artistic dexterity," is no longer shadowed by the high death-rate that used to compromise it. As I write, all the leading journals of the evening report the conferring of the Freedom of the City of London on Lord Lister in terms of cordial approbation—some of them, the "Corriere della Sera" of Milan, for instance, adding a brief biographical note on the career of the "venerando scienziato."

June 29th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Tropics as the Future Centre of Civilisation.

Colonel W. C. Gorgas, chief sanitary officer of the Isthmian Canal Commission, in an address before the graduating class of the Cornell Medical College, predicts that within the next two or three centuries the tropics will be the centres of wealth, civilisation, and population, as they were in the dawn of human history. This prediction is based on his experience in sanitation in the Panama Zone. He stated that through the efforts of the sanitary branch of the commission malaria and yellow fever have been brought under control. There has been no yellow fever on the Isthmus of Panama for over a year and malarial fevers have been reduced to a minimum. So completely has the stegomyia been reduced in numbers that yellow fever would not spread if it were introduced. He says that among the 6000 Americans connected with the canal work, which number includes 1200 American women and children, the families of these employees, there is very little sickness of any kind and their general appearance is fully as vigorous and robust as that of the same number of people in the United States. He concludes that the sanitarian can now show that any population coming into the tropics can protect itself against these two diseases by measures that are both simple and inexpensive; that these two diseases eliminated, life in the tropics for the Anglo-Saxon will be more healthful than in the temperate zones; and that gradually within the next two or three centuries tropical countries, which offer a much greater return for man's labour than do the temperate zones, will be peopled by the white races and become the centres of wealth, population, and civilisation.

Membership of the American Medical Association.

The recent report of the secretary of the American Medical Association shows that its membership on May 1st, 1907, was 27,515. The changes in the membership during the preceding year show the condition of the association. The discontinuances were 2135, of which 258 were by death, 1005 by resignation, 424 were dropped for non-payment of dues, 419 were found to be ineligible, and 29 were not traced. The comparatively large number of non-eligible members dropped was due to a systematic revision of the membership list. There have been added to the list during the year 6014 names, giving a total membership of 27,515, as already stated.

A Law Authorising the Sterilisation of Defectives.

An Act has passed the Legislature of the State of Indiana entitled "An Act to Prevent Procreation of Confirmed Criminals, Idiots, Imbeciles, and Rapists." The preamble states that "heredity plays a most important part in the transmission of crime, idiocy, and imbecility." The law provides that it shall be compulsory for each and every institution in the State entrusted with the care of confirmed criminals, idiots, rapists, and imbeciles to appoint upon its staff, in addition to the regular institutional physician, two skilled surgeons of recognised ability whose duty it shall be, in conjunction with the chief physician of the institution, to examine the mental and physical condition of such inmates as are recommended by the institutional physician and board of managers. If in the judgment of this committee of experts and the board of managers procreation is inadvisable and there is no probability of improvement of the mental condition of the inmate, it shall be lawful for the surgeons to perform such operation for the prevention of procreation as shall be decided safest and most effective. But this operation shall not be performed except in cases that have been pronounced unimprovable.

Pasteurisation of City Milk.

The board of aldermen of New York has decided that the pasteurisation of the milk sold in New York is neither necessary nor desirable, notwithstanding the vast array of facts that were brought forward to prove the contrary. The result of the discussion, however, has been very useful, not only in the city but throughout the country, in creating a public sentiment in favour of measures to secure a pure milk-supply. The first measure which attracts the public is that of securing a pure quality of milk directly from the dairy by the sanitation of the entire dairy establishment. Over the entire country public attention is being directed to the condition of the local dairies supplying the communities and greater and greater pressure is being brought to bear upon the milk producers in regard to the necessity of having their dairies in perfect sanitary condition. Health authorities, while insisting upon the improvement of the dairies, affirm that this will be a very gradual reform, but meantime pasteurisation of the milk for the public must be adopted as the only available method of sterilising the milk. The milk commission of Washington represents the position of the health authorities throughout the country in a recent report. It states as follows: "It must be apparent that it will require time and education to secure compliance with even reasonable safeguards and it is equally evident that the number of dairy farms now in a position to live up to sanitary requirements will supply but a small percentage of the population, although it is hoped they will be stimulated into existence by trade competition and the refusal of the public to buy dirty milk at any price. Until this is accomplished the committee, in the interests of public health, strongly advocates clarification and pasteurisation of all milk."

Industrial Settlement for Tuberculosis.

The Saranac Lake Industrial Settlement has been formed to give employment to persons who have reached the arrested stage in pulmonary tuberculosis and can no longer remain in institutions for incipient cases. This improvement in the treatment of the subjects of tuberculosis has been inaugurated under the direction of Dr. E. L. Trudeau, to whom this country owes so much for his pioneer work in the care of the victims of tuberculosis. It is held that this class of persons should not return to city conditions in order to support themselves, and to this end light employment along the lines of gardening, poultry raising, &c., is to be undertaken.

June 24th.

Obituary.

SIR WILLIAM TENNANT GAIRDNER, K.C.B., M.D. EDIN. & DUB., LL.D. EDIN., F.R.S., F.R.C.P. EDIN. & IREL.

HONORARY PHYSICIAN-IN-ORDINARY TO H.M. THE KING IN SCOTLAND; HONORARY CONSULTING PHYSICIAN TO THE WESTERN INFIRMARY, GLASGOW; LATE PROFESSOR OF MEDICINE IN THE UNIVERSITY OF GLASGOW, ETC.

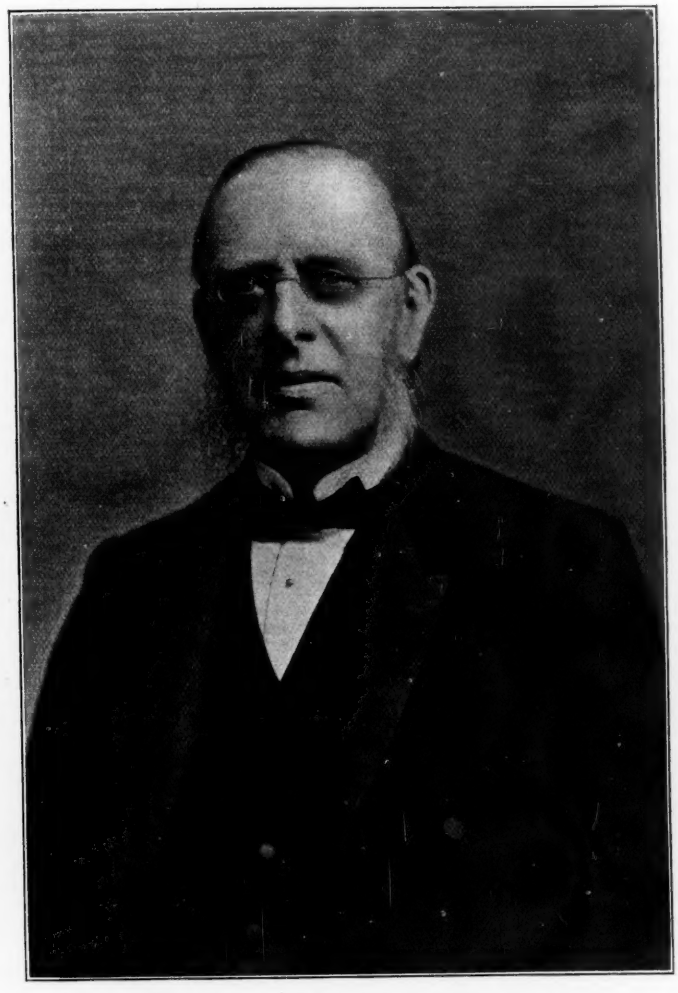
BY the death of Sir William Gairdner, which occurred somewhat suddenly on June 28th at Bracondale, Colinton, Midlothian, Scotland has lost one of the most learned and cultured exponents of medicine who taught in her schools during the past century. He had reached the ripe age of 82 years but he never ceased to take an active interest in the affairs of his profession. Thus as recently as 1902 he wrote in the *Glasgow Medical Journal* on the danger of the growing practice of prescribing opium in pneumonia, and two years later he made an interesting communication to our own columns describing a simple device by which he was able to make the most of his eyesight for reading, in spite of the fact that he had totally lost the use of one eye by a detachment of the retina ten years before and that there was a commencing cataract in the remaining eye.

William Tennant Gairdner was the son of an Edinburgh physician, Dr. John Gairdner, and was born in Edinburgh on Nov. 8th, 1824. As he was destined for the medical profession he naturally entered the university of his native town, in which he graduated M.D. in 1845, and the following year he held the post of resident medical officer at the Edinburgh Royal Infirmary; it soon became evident that he was marked out for distinction and in 1848 he was appointed pathologist to that institution. In 1850, at the early age of 26 years, he was elected a Fellow of the Royal College of Physicians of Edinburgh, which prepared the way, three years later, for his appointment as physician to the Royal Infirmary. At this time he began his teaching career, becoming the extra-mural lecturer in Edinburgh on the practice of medicine and clinical medicine. He held this post until 1862, by which time he had acquired such a reputation, both as physician and teacher, that he was invited by the University of Glasgow to accept the chair of medicine that had fallen vacant in that school owing to the resignation of Dr. John Macfarlane. He accepted the offer and remained professor of physic in Glasgow until the year 1900 and *ex-officio* physician to the Glasgow Royal Infirmary, with the result that not only the University but also the city derived the greatest benefit from his presence in their midst. He had already shown his interest in the then elementary science of public health, as was evinced by his publishing, in the year of his appointment to Glasgow, a valuable book entitled "Public Health in Relation to Air and Water," which epitomised what was then known on the subject, and he was consequently asked to undertake the onerous task of chief medical officer of health of the city of Glasgow at a time when that city was crying out for sanitary reform. He considered it his duty to accept this post, although it considerably hampered his clinical opportunities, and for ten years carried out his duties with such public-spirited zeal and efficiency that his name deserves remembrance as that of a true pioneer of sanitary reform. He had to face conditions of dirt and overcrowding such as do not exist in Great Britain to-day, and which are best exemplified by the fact that perhaps his most important contribution to clinical medicine was based on the opportunities which Glasgow gave him to study the treatment of typhus fever. He did most valuable work also in combating a severe epidemic of small-pox and, as we have indicated, his general sanitary work effected a complete change for the good in the unhealthy quarters of the city. His labours brought recognition of their merit, both within and without his University, for he was appointed an honorary physician-in-ordinary in Scotland to Queen Victoria, the present King conferring a similar honour upon him at his accession. He was also elected a Fellow of the Royal Society and, moreover, received the honorary degrees of LL D. at Edinburgh in 1883 and of M.D. at Dublin in 1887; in the same year he also received the honorary Fellowship of the Royal College of Physicians in the latter city. Other distinctions that fell to him were the Presidency of the British Medical Association in 1888 and the important task of representing the University of Glasgow in the General Medical Council from 1893 to 1903. He relinquished his chair in this University in 1900 and retired to his birthplace, Edinburgh, to spend the evening of his days. In 1889 he had received an official recognition of his public services in his creation as a K.C.B. He married in 1870 Helen Bridget Wright of Norwich, who survives him, as do his four sons and three daughters.

Sir William Gairdner will be remembered in his universities as an original thinker and as a teacher with a marked personal attraction. He appealed more especially to the thoughtful student, although he must have inspired all who knew him with an admiration for his genuine love of truth. His disregard for accepted authority until he had proved the matter for himself more than once brought on him the reproaches of his generation and his sharp conflicts with the opinions of other people when he was convinced of their error made some think that he was influenced by a personal animus against them. Nothing could be further from the case, his sole motive was an almost painfully exact sense of duty which doubtless had its origin in the deeply religious cast of mind that dominated his whole life and to which he did not fear to give public expression in the thoughtful and scholarly presidential address that he delivered before the British Medical Association in 1888, in which he was greatly concerned to demonstrate that there was no true incompatibility between a genuine personal religion and a keen appreciation of natural science; indeed, in this same address he urged the necessity of a deeper preliminary training of medical men in this subject than was at that time required. The address was published with others under the title of "The Physician as Naturalist" in the year after its delivery. Other works that he published were, "Lectures to Practitioners" (jointly with Dr. J. Coats) in 1888, in which he dealt with tabes mesenterica and urged that the disease was not necessarily so hopeless as was then believed; he also drew attention to the method of treating it by simple laparotomy and irrigation. In the same year appeared his work "On Some Modern Aspects of Insanity," and his last publication was in 1903, when his kindly philosophy crystallised out into a non-medical work entitled "The Three Things that Abide," to wit, the three great Christian virtues which he had conspicuously shown. Of his occasional contributions to the medical press we may note certain studies in heart disease, especially those dealing with angina pectoris, aortic aneurysm, and sudden death. An introductory lecture on clinical medicine delivered to his Edinburgh students at the beginning of his last course there, which was reproduced in THE LANCET of Jan. 25th, 1862, well reveals the man's mind. The utmost endeavour is apparent to combine his duty towards his students with his duty towards his patients, and he insists that a hospital ward is a sick-room before it is a class-room. He insisted always on the *vis medicatrix naturæ* and his expectant method of treatment earned him in some quarters an undeserved reputation for an intolerance of drugs. He was far too much on the side of truth to take up any such bigoted standpoint; the principle that he did oppose was that of mediævalism, of blind and unreasoning submission to academic authority. We may quote from a leading article that was written about his methods in our columns in 1864.

> Before attaining to his high position, and equally since, it has been his delight to teach others and himself not to dogmatise, but to observe, to reason, to get rid of errors, and to establish practice on sound basis such as could be defended before men of science. ..... A feature of Dr. Gairdner's writings, which must always command respect, is his great moderation and care, both of statement and inference; the anxious way in which he qualifies conclusions which may seem favourable to his own views, or against the views and practises of others. ..... His sense of responsibility as physician to a great hospital, giving the cue to hundreds of pupils, appears in every line, as does also the sense of evidence and what constitutes proof of the virtue of medicine or any given line of treatment.

This was written *apropos* of an article contributed to THE LANCET of March 12th, 1864, which was probably the most important of Gairdner's contributions to clinical medicine, and has a somewhat apposite significance at the present day. At that time typhus fever was prevalent both in Glasgow and in London, and in accordance with a fashion that had recently been introduced to medical practice, especially in dealing with the exanthemata, it was being almost universally treated with enormous doses of alcoholic stimulants. The great apostle of this method was Dr. Todd who was running up a wine and spirit bill on behalf of his patients at King's College Hospital that was only possible in an age that knew no official inspection of hospital accounts.



SIR WILLIAM TENNANT GAIRDNER, K.C.B., M.D.
(From a photograph by Messrs. Elliott and Fry.)

Gairdner adopted the plan of withholding alcoholic stimulants from his younger patients suffering from typhus fever and giving it in very moderate doses to only a small percentage of the adult cases that were under his care at Glasgow. The result was that his total mortality was for all cases 11·93 per cent., whilst amongst the King's College Hospital patients it was, according to Murchison, 25 per cent.; the latter institution lost 17 per cent. of the youngest patients, and for the same age Gairdner's percentage mortality was less than 1. He insisted on the utility of milk in the treatment of the disease and there is no doubt that his conclusive demonstration that the rôle of alcoholic stimulants was not that of a specific remedy but rather that of an occasional therapeutic aid did much to convert the profession from the exaggerated view that was then held about its value. We have said enough of his scientific writings to show that he was a man who has left his mark on the thought of his age and materially contributed to the progress of medicine.

We have received the following appreciation of Sir William Gairdner from Dr. J. G. Glover, a friend of the distinguished physician:—

"It has been my privilege to enjoy the friendship of Sir William Gairdner for 40 years. I have known him longer even than that. My earliest recollection of him was in the Edinburgh University days of the 'fifties,' in which his familiar figure and energy were much in evidence as pathologist, succeeding Dr. Bennett. In the year 1866, in Glasgow, I had occasion to consult him, then professor of medicine in the University of Glasgow, in regard to a disease in the knowledge and treatment of which he was a master—typhus fever. The patient was a relative and I found Gairdner not only a master but a sympathetic friend who gave me the most valued help and saw me safely through my anxiety. This was a historical time in the sanitation of Glasgow. Its sickness, and especially its perpetual harbouring of typhus fever, had become a scandal and a discredit. Fortunately, Gairdner had become its medical officer of health and under his great lead there was well begun the work of clearing large areas of the city by razing to the ground the hopelessly infected and insanitary property which served as a centre and focus of disease extending far beyond its own immediate neighbourhood. Dr. Gairdner kindly took me round the city and showed me the work both of destruction and construction in process with obvious pride, enunciating the large principles upon which such work has to be done by municipalities to make cities wholesome and worthy of Christian civilisation. The work was most congenial to him and it may be doubted whether any other was ever more so, although he took it up originally with some demur, as being likely to sever him from clinical pursuits. He persevered with it for ten years and only abandoned it when the duties of the University and his consulting practice compelled him to do so. But his interest in its continuance never flagged and almost the latest letter I had from him was an enthusiastic eulogy of the 'Memorial Volume of the Writings'[1] of his great successor, Dr. J. B. Russell, which he described as 'a monument to a very admirable man for whom I have the greatest possible affection.' If there was any other work which Gairdner loved more than the transformation of a sickly and infected city into a comparatively healthy one it was the work of medical education. As theorist and in practice, as professor or as clinician, he was enthusiastic to the last as a teacher of medicine. Whether in the post-mortem theatre or in the hospital ward, or at a medical society, or in the chair of the British Association, his zeal and his cheerful optimism raised all his work to a kind of worship—'ever as in the Great Taskmaster's eye.' His interest in getting to know all that was knowable amounted to a passion and kept him a student to the last everywhere. He only relinquished his chair of medicine when blindness in part had overtaken him and physical power to keep pace with the leaps and bounds of medicine failed him. It would not surprise me to learn that the study of his own grave disease and the attempt to get medical lessons from its behaviour served partly to entertain his last years. Perhaps therapeutical medicine was not his strongest point, though he always resented being supposed to have a narrow prejudice against the employment of all drugs. But he did one masterpiece of negative work in this field: he destroyed the pernicious doctrine of Todd, which would add alcoholic intoxication to the intoxication of typhus and of pneumonia. And one of the best things that any student of medicine can do is to buy his book, 'The Physician and Naturalist,' and read it through and read twice the chapter on 'Facts and Conclusions as to the Use of Alcoholic Stimulants in Typhus Fever' and the three subsequent chapters. I have spoken of Sir William Gairdner as a friend. But Sir William Gairdner had no enemies. He was as much at home in Glasgow as in Edinburgh, and in London, Paris, or Rome as in Scotland. By his death the profession loses one of its greatest, cheerfullest, devoutest members."

[1] Maclehose, Glasgow.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Buliguinski, professor of medical chemistry in the University of Moscow.—Dr. Giuseppe Corradi, formerly professor of surgery in the Florence Medical School.—Dr. Cannieu, professor of anatomy in the University of Bordeaux.

Medical News.

TRINITY COLLEGE, DUBLIN.—At examinations held in Trinity term the following candidates were successful:—

FINAL MEDICAL EXAMINATION.

Part II., Surgery.—William Pearson, Robert E. Wright, Richard G. S. Gregg, and Allman J. Powell (passed on high marks), William E. M. Armstrong, Frederick Stevenson, Henry de C. Dillon, Oliver St. J. Gogarty, Thomas B. W. MacQuaide, Reginald Holmes, Wallace D. Mitchell, James C. C. Hogan, Madeleine S. Baker, Charles H. O'Rorke, James E. M'Farlane, Joseph C. Ridgway, and William A. R. Spong.

Part II., Midwifery.—Frank R. Seymour, Henry de C. Dillon, William A. R. Spong, William E. M. Armstrong, Robert de C. Wheeler, Arthur E. Knapp, Thomas P. Dowley, John H. Waterhouse, and Alfred H. Smith.

PRELIMINARY SCIENTIFIC EXAMINATION.

Physics and Chemistry.—Bernard G. Quinlan, Ronald G. M'Entire, Henry L. W. Woodroffe, Patrick Murphy, James M. Elliott, Thomas G. Harpur, Arthur Chance, Edgar Ll. F. Nash, Thomas L. Bookey, Francis C. Crosslé, Arthur F. Shaw, Leonard Shiel, Oswald C. Tandy, Edward H. H. Lloyd-Dodd, Francis Breen, Albert E. Malone, George M. Maybury, Robert W. Murphy, Hugh E. Williams, Hugh M'C. Fleming, Matthew M'Knight, James C. Kelly, Andreas A. Louw, Robert C. M'Kelly, and Humphry L. Blackley.

Botany and Zoology.—Henry L. W. Woodroffe, Arthur F. Shaw, Francis C. Crosslé, Thomas G. Harpur, Georgina Revington, Hubert T. Bates, Eileen M. Hewitt, Frederick B. M'Carter, Gerald G. P. Beckett, Dorothy K. Milne, Francis Usher, Percy D. Long, Robert W. Murphy, John T. Higgins, Thomas King-Edwards, Henry S. Campion, Arthur Chance, Marjory Chapman, Francis T. G. Corscadden, Richard Grandy, Richard P. Pollard, James N. G. Nolan, Cecil Rutherford, Brian D. Crichton, Bernard G. Quinlan, and Robert G. Ball.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Felix Klemperer, *privat-docent* of Medicine and Laryngology, and Dr. Johann Ziemann, an eminent naval surgeon, have been granted the title of Professor.—*Bordeaux:* Dr. Mandoul has been appointed Professor *agrégé* of Natural History.—*Freiburg:* Dr. Karl Hirsch of Leipsic has been appointed Professor of Medicine in succession to the late Dr. Louis Thomas.—*Lille:* Dr. Ch. Dubois has been appointed Professor *agrégé* of Physiology.—*Montpellier:* Dr. Cabanes has been appointed Professor *agrégé* of Natural History.—*Nancy:* Dr. Collin has been appointed Professor *agrégé* of Anatomy.—*Paris:* Dr. Déjerine has been appointed Professor of Medical Pathology in succession to Dr. Hutinel, who has been appointed to the chair of Children's Diseases. Dr. Mulon has been appointed Professor *agrégé* of Anatomy and Dr. Brumpt Professor *agrégé* of Natural History.—*Prague (German University):* Dr. Oskar Fischer has been recognised as *privat-docent* of Psychiatry.—*Strasburg:* Dr. Otto Schirmer has been appointed Professor of Ophthalmology in succession to Dr. Laqueur, who retires. Dr. Heubner of Leipsic has been recognised as *privat-docent* of Pharmacology.—*Vienna:* Dr. Otto Chiari, Extraordinary Professor of Laryngology, has been promoted to an ordinary professorship.—*Würzburg:* Dr. Oskar Schultz, who has charge of the Chemico-Physiological Department, Dr. August Gürber, *privat-docent* of Physiology, Dr. Otto Rostoski, *privat-docent* of Medicine, and Dr. Ludwig Burkhardt, *privat-docent* of

Surgery, have been promoted to Extraordinary Professorships.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on June 27th, Dr. F. H. Champneys being in the chair. On the motion of Sir William Sinclair, seconded by Mr. Parker Young, the following motion was passed :—

That inasmuch as changes in the pulse and temperature are the earliest and surest indication of the onset of puerperal fever when the disease is still amenable to treatment this Board resolves to call the attention of local supervising authorities to the importance of instructing and encouraging midwives practising within their areas in taking and recording the pulse and temperature in every case under their care.

Letters were read from the town clerk of Southampton asking the Board to rescind its resolution of censure for having given a false certificate of still-birth, passed on Jan. 31st, 1907, on Adeline Letitia Bellis, on her own admission. The Board decided that the town clerk of Southampton should be informed that the Board declined to re-open a case which had already been reconsidered at the request of the local supervising authority together with the whole of the facts as presented by it and as to which no fresh facts were suggested. The following midwives were censured: Ellen Greenwood for not having advised that medical assistance should be sent for in a case of breech presentation in a primipara; Mary Lixton for not having advised that medical assistance should be sent for in a case of ophthalmia neonatorum; and Annie Duncalf, for not having advised that medical assistance should be sent for in a case of rigor and for not having taken the temperature of the patient after the occurrence of a second rigor. The following midwives were cautioned; Jane Jones, as to the strict observance of the rules of the Board, and in particular as to those requiring her to notify to the local supervising authority in cases of still-birth, and when medical assistance has been sent for; and Mary Chalk, as to the strict observance of the rules of the Board, and in particular as to that requiring her to send for medical assistance in a case of inflammation about the navel of a child.

SOCIETY OF ARTS.—The annual general meeting of the Society of Arts, the 153rd since the foundation of the society, was held on June 26th, Sir Steuart Colvin Bayley, K.C.S.I., C.I.E., chairman of the council of the society, being in the chair. The principal business of the meeting was the election of the council for the year and the reception of the annual report of the council. H.R.H. the Prince of Wales was re-elected President of the society, an office which His Royal Highness has filled since 1901. The report reviewed the proceedings of the society during the past session; it referred to the award of the Albert medal to Lord Cromer, and gave a list of the other medals awarded during the session. Amongst the prizes announced for next year is a gold medal under the Benjamin Shaw Trust for Industrial Hygiene, similar medals under the Stock and Mulready Trusts to students of schools of art, and one under the Fothergill Trust for the best portable apparatus for use in mines and other places where the air is noxious, enabling men to undertake rescue work. It was noted that there had been a slight increase in the number of candidates at the society's examinations, the total number of papers worked being 24,568. It was announced that a committee had been appointed to make further investigation into the subject of the deterioration of paper, on which subject a committee had reported in 1898. The election of their Majesties the King of Denmark and the King of Norway as honorary Royal members of the society on the occasion of their visit to this country was mentioned. The report concluded with a reference to the members of the society who had died during the past year, the most noticeable of whom was Sir Benjamin Baker.

THE ELEVENTH ANNUAL REPORT OF THE NATIONAL ASSOCIATION FOR THE FEEBLE-MINDED.—The excellent work which this very useful association continues to do is shown in its latest report. We learn that the "after-care" work—i.e., the placing in suitable situations and the permanent supervision of children incapable of further improvement—has been especially engaging the attention of the association during the past year, and resolutions passed at the London Conference urging the importance of this system were forwarded to the Royal Commission on the Care and Control of the Feeble-minded. The movement is obtaining the support of an increasing number of medical men whose names include many that are authoritative in this connexion. The report includes an interesting discussion on the connexion of alcoholism and feeble-mindedness which recently took place at a meeting of the association. There was a variance of opinion as to the extent of the effect that alcoholism in the parents can have in producing feeble-mindedness in the offspring, but there was a general concurrence as to the fact that parental intemperance was so frequently associated with degeneracy of offspring that it must be reckoned as a factor in producing congenital mental defect. The meeting was agreed as to the advisability of asking for legislation to prevent young children from entering public-houses. A colony and children's home is to be shortly opened but curiously its location is not mentioned in the report. Anyone desiring to give their support to the association can obtain information about it from the secretary at Denison House, 296, Vauxhall Bridge-road, London, S.W.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—The annual prize-giving to the successful students of the hospital took place on July 2nd in the board room of the hospital; Mr. Yool, in the absence of Sir John Wolfe-Barry, was in the chair, and the Right Honourable Alfred Lyttelton, K.C., M.P., distributed the prizes. Mr. Lyttelton, having first congratulated the prize-winners on their success in a few humorous words, deprecated his own personal qualifications for officiating on the interesting occasion. He suggested that it would have been more appropriate that a medical man should have addressed a gathering of distinguished men of science rather than a Member of the House of Commons and a lawyer. In a more serious vein Mr. Lyttelton pointed out how manifold were the gifts required by medical men outside intellectual attainments and that in forming an opinion on a medical case in which all the circumstances were not known and sometimes the truth was wilfully perverted genius was required. He advised his hearers to develop the feminine quality of intuition. In dealing with a patient also they must distinguish between philosophic methods of thought and the methods of action which in this instance were called for. No doubt, even though it crossed their mind, must be apparent to the patient but they must give their advice with authority and confidence. Two very necessary qualities in the medical man were patience and a cheerful tenacity. Though he was of opinion that athletics were at present overdone it was unwise to neglect them altogether in this age of stress when variety was required for recuperation of nerve powers. He also drew attention to the importance of discussion of medical topics among medical students and pointed out how by this means half truths were found out, ignorance was exposed, and true knowledge was gained.

DURHAM COUNTY CONSUMPTION SANATORIUM: A SECOND SANATORIUM TO BE PROVIDED.—The annual meeting of the Society for the Prevention and Cure of Consumption in the County of Durham took place at the sanatorium, Stanhope, on June 29th. Mr. J. A. Hildyard presided. Dr. W. Robinson (Sunderland) moved and Councillor Elliott (Gateshead) seconded the adoption of the annual report, of which the following is a summary. The measures taken by the society and by the various sanitary authorities in the year which would tend to stop the spread of the disease were mentioned. The Lanchester rural district council is using the empty wards of its isolation hospital for consumptives with satisfactory results and Sunderland is obtaining powers to insure a tubercle-free milk-supply. Special homes for advanced cases were strongly advocated. The death-rate from tuberculosis in the county is steadily declining. The sanatorium contained 45 beds and the average daily number of patients was 43·4, each patient staying on an average 13·2 weeks and costing 17*s.* 10*d.* per week. Applications for admission numbered 257 and 176 patients were admitted and the results of treatment were considered eminently satisfactory. In seven years the applications had been about 1400 and the admissions 800. An after-care association and a working out-door colony are much needed. The income for the year was £3362 and the expenditure £1995. Local authorities subscribed £1223 and sent 79 patients, and working men subscribed (at 1*s.* per annum by each man and collected at the works) £761 and sent 38 patients. Payment by patients at various rates up to 2 guineas per week amounted to £1071 and £196 were received from private subscribers. Dr. J. Gray read his annual report and Mr. C. E. Thompson moved a proposition "that the committee be

empowered to provide a second sanatorium at a cost not exceeding £6000," which was carried. Mr. Thompson promised £100 to the fund for the purpose and thought that a second sanatorium was greatly needed and would enable the men to be treated in one and the women and children in the other. The election of officers for the year and a vote of thanks to the chairman concluded the meeting.

LITERARY INTELLIGENCE.—Messrs. Hutchinson and Co., Paternoster-row, London, E.C., will shortly publish, at the price of 2*s.* 6*d.* a new book by the author of the "Soul Market," entitled "Baby Toilers," the objects of which are to enlist public sympathy in the question of sweated labour and to help towards the introduction of a minimum wages Bill for home workers.

MEDICAL AFFAIRS IN ASHANTI.—It appears from the annual report of the Colonial Office, just presented to Parliament, that during 1906 the medical staff of Ashanti consisted of a senior medical officer and five medical officers. The department was successively in charge of Mr. G. J. Rutherford, Mr. T. E. Rice, and Dr. J. C. Montgomery. The average European population during 1906 was 383; of these 48 were officials and 335 non-officials. During the year six deaths occurred—all among non-officials—representing a European death-rate of 15 per 1000. Five officials and 24 non-officials were invalided, an invaliding rate of 75 per 1000. A death-rate of 15 per 1000 is not excessive for West Africa, and on the whole the health of the Europeans in Ashanti may be described as fair. There are no statistics available to calculate the health of the native population, but there were no epidemics and therefore it would appear to have been normal. At the Native Hospital 755 in-patients were admitted, of whom 20 died. In the out-patient department 8485 new cases were treated. During the year vaccination was systematically practised. A European hospital, containing four wards, is in course of construction. Permanent latrine houses, constructed of corrugated iron and concrete, have now been erected in the town of Kumasi. The water-supply is good and plentiful. A number of new wells have been constructed and alterations have been made in some of the old ones.

THE BRITISH ANTARCTIC EXPEDITION.—An exhibition of medical and scientific interest was opened at 5, Regent-street (close to Waterloo-place), London, S.W., on July 1st, in connexion with the expedition which, under Lieutenant Shackleton, will shortly leave this country for southern seas. The exhibition is divided into two sections, the one dealing with food and the other with equipment. Among the firms in the first section who have exhibits are Messrs. Coleman (Norwich) who, in addition to other gifts, have supplied five tons of flour for use in the expedition, and Messrs. Rowntree (York) who have given a large quantity of chocolate and cocoa. This firm has added to the interest of the exhibit by showing botanical specimens of the cocoa plant and the cocoa in different stages of manufacture. Messrs. Bird (4B, Upper Thames-street, London, E.C.) have presented the expedition with custard powder; the Imperial Dry Milk Company (agents, Messrs. Joseph Nathan and Co.) with dried milk; the Oxo Company (4, Lloyd's-avenue, London, E.C.) with Oxo; and the Montserrat Company with 17 cases of lime-juice. All these firms have exhibits of interest. Other firms supplying the expedition with food are the International Plasmon Company, Limited (66A, Farringdon-street, London, E.C.); the McDoddie Viands Company (155A, King's-street, Hammersmith, London, W.); Messrs. Brand and Co. (74–84, South Lambeth-road, London, S.E.); Bovril, Limited (152, Old-street, London, E.C.), who send their emergency food and rations, including Pemican and Virol; and Messrs. Griffiths McAlister (Manesty's-lane, Liverpool) who supply hams, bacon, tinned fish, and jams. The Remington Typewriter Company (Gracechurch-street, London, E.C.) supply a typewriter and Messrs. Guttman and Co. (8, Long-lane, London, E.C.) Thermos flasks. Messrs. Burroughs, Wellcome and Co. (Snow-hill, London, E.C.) furnish the medical supplies and photographic outfits. A noticeable feature in the equipment section is the absence of any large display of furs. It has been found that Jaeger and waterproof clothing are more suitable material for body coverings in Polar regions and consequently fur is practically only used for boots (Finskoo) and mittens. The Jaeger Company are supplying the wool clothing and Messrs. Burberry (30 and 31, Haymarket, London, W.) the waterproof clothing The hut for use by the expedition party (a sketch of which is shown) has been made by Messrs. Humphrey. It is constructed of wood, with double walls packed with granulated cork, and measures 19 feet by 33 feet. It will be lighted with acetylene gas. The generator has been supplied by Messrs. J. and J. Drummond (Aberdeen). The cooking apparatus to be carried on the sledges is the one invented by Dr. Nansen, the heat being generated by a Primus oil-stove. In addition to examples of the furniture for use on the expedition and tool outfits there is a tableau representing an exploring party with a completely equipped sledge and tent. The exhibition will close at the end of next week.

THE CANCER HOSPITAL.—In the grounds of this hospital a conversazione was held on July 2nd, when the president of the hospital, Lord Ludlow, who was accompanied by Lady Ludlow, received the guests. In the course of the evening an inspection of the wards took place. The hospital, which was founded in 1851 by the late Dr. William Marsden, received during the past year 817 in-patients and treated 17,376 out-patients. The institution is solely dependent on voluntary support and funds are urgently needed to meet an increasing expenditure. Every year it is found necessary to draw more and more on capital. Last year the ordinary income amounted to £9013 and the expenditure to £16,699, making a deficit of £7686.

POOR-LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.—The annual general meeting of this association was held at the Trocadéro, Piccadilly-circus, London, W., on June 27th, Surgeon-General G. J. H. Evatt, C.B., President of the association, being in the chair. The report of the council and balance sheet for the last year were duly presented and unanimously adopted. The financial condition was considered very satisfactory, and it was decided to invest another £100 in Consols. The officers and council for the last year were re-elected with the exception of the treasurer, Dr. W. Gayton, who desired to retire from that office. Mr. A. A. Napper was unanimously elected treasurer in his place, and the thanks of the association were given to Dr. Gayton for his long and able services in the past. Afterwards the members and their friends dined together. A musical entertainment was given by Mr. T. F. Noakes and a very pleasant evening was spent.

MILK CONTAMINATION AND DISTRIBUTION.—A conference on this subject was held at the Incorporated Institute of Hygiene, 34, Devonshire-street, London, W., on July 1st. Mr. A. W. Mayo Robson, who presided, said that milk was a necessary food not only for the child but for the adult. Infected milk was the cause of a large infantile mortality and of many physical disabilities in children. Those who escaped death often became degenerate and drifted into our hospitals, asylums, and prisons. Dr. J. C. Thresh proposed a motion, which was subsequently carried, to the effect that the periodical veterinary inspection of all cows kept for the purpose of giving milk for human consumption should be made compulsory throughout the United Kingdom. Veterinary inspectors should give their whole time to the matter, he said, and be free from local influence. Such inspection should take place periodically four times a year and power should be given to the inspectors to visit places where cows are kept at any time. Power ought to be given to inspectors to see that cow-sheds were properly constructed and they should also have power to authorise the analysis of the water-supply. It was of little use providing facilities for cleanliness among the cowmen unless the men were properly educated. He had known cases where cowmen, after washing their hands, had entered the cowshed and taken up a milking-stool bespattered with manure. The only remedy was to bring the men into a police court occasionally. Many medical officers of health were now of opinion that another source of milk contamination was the way in which milk was stored by the consumer. He was of the opinion, however, that if the public could depend upon the purity of milk the demand for it would greatly increase. Dr. George Carpenter put forward a long series of proposals dealing amongst other things with annual licences and microscopical and bacteriological examination of milk, most of which did not meet with the approval of the meeting. He believed that the best interests of the community would be served in the matter of a pure milk-supply if the Local Government Board were made the chief authority to deal with the matter. He drew a harrowing picture of some of

the milk-sheds which he had visited and said that in some cases where a sterilising apparatus was used it was not milk that was being sterilised but filth. Dr. P. C. Smith thought that too much was being said on the question of milk-supply and too little done. What was wanted was an Act of Parliament which would deal with the whole question in England, Scotland, and Ireland.

DEATH OF A CENTENARIAN.—Mr. Henry D. Hewson died at South Draynes Farm, St. Neot, on June 20th. He celebrated the 100th anniversary of his birthday on March 25th last.

MEDICAL MATTERS IN CHINA.—Dr. Lehmann, who has been for many years medical officer to the German and Dutch residents in Peking, has been appointed by the Chinese Government chief medical and sanitary officer of the province of Mukden for two years. Hitherto this appointment has been in the hands of the Japanese. A German preparatory medical school has just been opened in Shanghai at which 20 Chinese students have already entered. The professors are Dr. C. Dubois Reymond and Dr. Schindler.

THE BARKER ANATOMICAL PRIZE.—This prize is open to any student whose name is on the anatomical class-list of any school in the United Kingdom. The prize is offered this year for dissections to illustrate the muscular and ligamentous anatomy of the shoulder-joint. The prize is of £21 and is awarded by the curator and President of the Royal College of Surgeons in Ireland and the professor of anatomy in the University of Dublin. The preparations entered must be placed in charge of the curator on or before April 30th, 1908. Each must be marked with a fictitious signature and accompanied by an envelope bearing outside the same signature and containing the name of the competitor. Further information can be obtained on application to the curator.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—At a meeting of the Honiton board of guardians held on June 1st Mr. Thomas Henry Stocker Pullin, M.D. St. And., F.R.C.S. Edin., M.R.C.S. Eng., L.S.A., was presented by the chairman (Mr. H. Force), on behalf of the guardians, with a silver salver and illuminated address in recognition of his services, extending over a period of 50 years, as medical officer of the Sidmouth, Sidbury, and Salcombe Regis districts of the Honiton union. The chairman alluded to the kindness of Dr. Pullin to the paupers committed to his care, and Dr. Pullin, in returning thanks, said that he had been informed that the length of his service was a record in the Poor-law medical service.—On June 22nd Mr. Murray Babington Steuart, M.B., C.M. Edin., was presented with a silver coffee pot, suitably inscribed, and a cheque for 100 guineas, as a mark of respect and esteem from the residents of Bovey Tracey, Devonshire, on the occasion of his departure from the town.

NATIONAL SOCIETY FOR EMPLOYMENT OF EPILEPTICS: THE COLONY CHALFONT ST. PETER.—The fourteenth annual meeting of the governors of this society was held on July 1st at the London offices, Denison House, Westminster. The chair was taken by Mr. E. Montefiore Michells, and the reports of the honorary medical staff and the executive committee for the year 1906 were received and adopted. From the medical report it appears that during the past year there have been on the average 197 epileptic "colonists" in residence at the society's colony, besides nine convalescent patients. There was only one death during the year. There was entire freedom throughout the year from any epidemic or infectious disease, and the honorary medical staff again testify to the continued usefulness of the colony and generally to the benefits which accrue to the health of confirmed epileptics by the care and management bestowed upon them in the institution, and they add, "It is now universally admitted that a real necessity exists for special institutions in the treatment of epilepsy, and preferably in the form generally adopted in this and other countries—viz., colonies for epileptics." The report of the executive committee states that in response to the appeal recently issued under the auspices of the Prince of Wales as president of the society, besides other contributions, two most generous offers have been received from intending benefactors, one of whom volunteers to provide the entire cost of building an additional home at the Chalfont colony for 24 women, while the other undertakes to provide the cost, estimated at £3500, of building and furnishing a home for the same number of children. To complete the purposes of the appeal, however, funds are still needed for the erection and equipment of two more homes and for other purposes, and an urgent appeal is made by the committee for further funds in aid of this exceedingly philanthropic and much-needed society. The offices are at Denison House, Vauxhall Bridge-road, Westminster, London, S.W.

DONATIONS AND BEQUESTS.—By the will of Dr. Thomas Jarvis Bennett of Tunbridge Wells, subject to his widow's life interest, the whole of his property, valued at over £30,000, is left to the Royal United Hospital, Bath.—Mrs. Godfrey Walker of Conisborough Priory, Yorkshire, the residuary legatee of the late Mrs. Percy Sladen, has sent to the council of the London School of Medicine for Women £20,000 in aid of the endowment of the school.—Mr. John Hughes of Rhyl has by will left about £5000 to be divided between the General Hospital, the Queen's Hospital, the Children's Hospital, and the Eye Hospital at Birmingham.—By the will of Mrs. Henry Moore of Slough, Bucks, King's College Hospital, the Children's Hospital, Paddington, and St. Mary's Hospital will each receive £2000. After certain other disbursements the residue of the estate, valued at £32,000, is left to King's College Hospital.—Mrs. M. E. Bolger has bequeathed by will £1000 each to the Cancer Hospital, Brompton, and the Chelsea Hospital for Women. The proceeds of the sale of her furniture, plate, and jewelry are to be given to the Hospital for Consumption, Brompton.

THE HAMPSTEAD GENERAL HOSPITAL.—A special meeting of the medical profession of Hampstead and the neighbourhood was held, under the auspices of the Hampstead division of the British Medical Association, on July 3rd in the lecture room of the Hampstead Conservatoire. The chair was taken by Dr. G. D. Pidcock. The following resolution was put to the meeting and carried *nem. con.*:—

That this meeting considers that the Hampstead Hospital should always have a visiting staff of local practitioners, and in consideration of this opinion calls upon the members of the medical profession to refuse to accept any office on the staff on terms which are not considered satisfactory by the local profession.

In consequence of the decision of the council of the hospital that in future local practitioners shall not be appointed on the medical staff, a special meeting of governors and subscribers has been requisitioned for July 16th at the hospital at 6 P.M. to consider and, if deemed desirable, to adopt the following motions:—

1. That the practice, hitherto followed, of appointing acting medical officers from among the members of the medical profession practising in Hampstead be continued.
2. That the number of physicians and surgeons on the consulting staff be augmented.

This requisition is signed by, amongst others, the Mayor of Hampstead, Sir George Barham, Colonel G. Grant Gordon, C.B., and Mr. J. S. Fletcher, M.P., vice-presidents of the hospital; Sir Samuel Wilks, Bart., consulting physician to the hospital; Mr. James Gough, chairman of the house committee; Dr. E. Collingwood Andrews, chairman of the medical committee, on behalf of the staff; Mrs. King and Mrs. Swinburne-Hanham, representatives on the council of the Ladies' Association; Mr. H. W. Birks and Dr. F. P. Weaver, members of council; and Mr. Alderman McMillan, deputy mayor.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Plague in India.

THE memorandum which the Royal College of Physicians of London drew up in July, 1905, on the subject of plague in India, has now been printed as a Parliamentary return. It was moved for by Dr. RUTHERFORD. In this memorandum the Royal College of Physicians drew attention to the grave danger not only to India but to all parts of the Empire which arose from an epidemic of such vast proportions and prolonged duration. Suggestions were made in it for coping with the plague. The memorandum was signed by Sir R. DOUGLAS POWELL, the President, Dr. J. F. PAYNE, Dr. NORMAN MOORE, Sir PATRICK MANSON, Dr. JOHN ANDERSON, Dr. W. J. R. SIMPSON, and Dr. E. LIVEING, the registrar.

Ventilation of Factories and Workshops.

The second report of the Departmental Committee appointed to

inquire into the ventilation of factories and workshops has been presented to Parliament. In its first report the committee dealt with the removal by general ventilation of the more ordinary impurities arising from the presence of persons and lights. The second report deals with the application of fans to factory ventilation in connexion more particularly with the removal of dust, fumes, steam, and other impurities associated with special manufacturing processes.

Sight Tests in the Mercantile Marine.

The Board of Trade's annual report on sight tests in the Mercantile Marine states that of the 61 candidates for certificates who failed in form vision during 1906 one was re-examined and passed, while of the 57 who failed in colour vision 15 were re-examined on appeal and of these nine passed and six were rejected.

HOUSE OF LORDS.

WEDNESDAY, JULY 3RD.

Medical Companies.

Lord HYLTON moved the third reading of the Prohibition of Medical Practice by Companies Bill, and his motion was agreed to without discussion.

His LORDSHIP then formally moved that the Bill should be passed.

The Earl of CREWE (President of the Council) said that at this stage he desired to move one or two amendments to the Bill. He had suggested to Lord Hylton, who had taken charge of the Bill in its progress through their lordships' House, that he should confer with his department on the subject of what amendments should be introduced into the Bill. The noble lord had been good enough to carry out that suggestion, and he understood he would agree to the amendments now about to be proposed. He (Lord Crewe) now proposed that whilst offending companies should still be liable to penalties for contravention of the provisions of the Bill, the directors, managers, and officers should only be liable if they knowingly and willingly authorised or permitted such contravention. He moved an amendment to make it plain that this was the intention of the Bill.

The amendment was agreed to without further discussion.

The Earl of CREWE then moved a further amendment to the effect that a "company" should be defined for the purposes of the Bill as "any body corporate wherever established which carries on business in the United Kingdom."

This important amendment was agreed to.

The Bill was then passed. As it originated n the House of Lords it has still to pass through all its stages in the House of Commons.

HOUSE OF COMMONS.

WEDNESDAY, JUNE 26th.

The Report of a Medical Officer of Health.

Mr. WEIR asked the President of the Local Government Board whether he was aware that Dr. J. Lloyd Roberts of Colwyn Bay, county medical officer of health, when recently submitting his annual report at a meeting of the district council of St. Asaph, North Wales, was requested to amend it; and whether he would state if a local authority had the right to insist on a medical officer of health withdrawing statements which he had thought proper to make in his annual report in regard to the sanitary condition of a district under his supervision.—Mr. JOHN BURNS replied: I am informed that, in the opinion of the district council, the report was inaccurate and incomplete, and that the medical officer of health has been asked further to consider it and to submit it at the next meeting of the council. I am not fully acquainted with the circumstances of the present case but, speaking generally, it does not appear to me that a district council can insist on the withdrawal by the medical officer of health of statements in his annual report in regard to the sanitary condition of the district under his supervision.

The Boyle Sanitary Authority.

Mr. JAMES O'KELLY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that the Local Government Board for Ireland had given notice that one of its inspectors would hold an inquiry on July 2nd, 1907, on a petition forwarded by certain ratepayers in Boyle to constitute that township an urban sanitary authority; whether he was aware that the notice was only received on June 19th, and that there was no meeting, either of the Roscommon county council or the Boyle district council, to be held between the date of notice being received and that on which the inquiry was to be held; whether, seeing that both these bodies were interested in the matter to be inquired into, he would see that the inquiry be adjourned to a date that would give these bodies an opportunity of considering the course they should adopt in the interests of the ratepayers they represented, and whether he would take steps to secure that the Local Government Board should consult these bodies as to a convenient date for the inquiry.—Mr. BIRRELL answered: The Local Government Board gave the usual statutory notice of this inquiry. The Board has since received from the county and rural district councils a request that the inquiry may be postponed and in reply has informed these bodies that the inspector will attend and open the inquiry on the date fixed and then adjourn it to any date which may be arranged to suit the convenience of the parties concerned.

The Chief District Medical Officer of Lewis.

Mr. WEIR asked the Secretary for Scotland, having regard to the fact that the Local Government Board for Scotland in its report last year expressed the opinion that it was not possible for the duties attaching to the office of chief district medical officer in the Island of Lewis to be discharged by anyone resident in Dingwall, whether he would state what steps had been taken by the Board to ensure the appointment, vacated some time since by Dr. C. M. Macrae, of Stornoway, being filled by a medical officer resident in the island.—Mr. SINCLAIR said in reply: I have no official information but I understand the district committee is to meet shortly in order to appoint a successor to Dr. Macrae.

Still-births in 1906.

Mr. WILLIAM PEARCE asked the President of the Local Government Board to give the number of still-births which were notified to the local supervising authorities by certified midwives under the Midwives Act, 1902, during the year 1906.—Mr. BURNS sent the following written answer: I have made inquiry but I have not been able to obtain this information for which the honourable gentleman asks.

The Qualifications of Irish Medical Officers of Health.

Mr. SLOAN asked the Chief Secretary to the Lord Lieutenant of Ireland what special training, if any, medical officers of health had got in veterinary matters and whether, seeing that by the Public Health Act they were expected to diagnose diseases in animals used for food of man, he would give instructions to all sanitary authorities that only veterinary surgeons should be employed in the inspection of meat and milch cows in all cases where the medical officer of health had no special training.—Mr. BIRRELL (in a written answer) replied: In the case of county boroughs any person who may be appointed as medical superintendent officer of health is required to possess a diploma in sanitary science, public health, or State medicine. This requirement ensures that the person appointed possesses the requisite training to enable him to discharge the duties which devolve upon him in the inspection of meat intended for human food. In other districts in which a superintendent medical officer of health is appointed the officer is required to possess a similar diploma. Any sanitary authority may appoint a veterinary surgeon for the purpose of the inspection of meat to be used for human food, and such appointments have been made in the case of Dublin and Belfast.

THURSDAY, JUNE 27TH.

The Investigation of Cancer.

Captain FABER asked the Prime Minister whether he could now state if he was able to appoint a Royal Commission to examine into the causes of the national scourge, cancer.—Sir HENRY CAMPBELL-BANNERMAN replied: Since the honourable and gallant Member gave notice of this question some little time ago I have made inquiries of the authorities who are best qualified to express an opinion on a matter which we must all feel to be of the utmost importance and I am advised that it would not be expedient at present to recommend the appointment of a Royal Commission to inquire into the causes of cancer. Though much research work is being systematically carried on in this country in connexion with the Imperial Cancer Research Fund and otherwise, and also abroad, I am advised that much remains to be done before any facts can be brought before a Royal Commission with any likelihood of their making such an inquiry fruitful for the public advantage.

Mr. A. LEE asked as a supplementary question whether the right honourable gentleman would consider the advisability of making a grant to the Imperial Cancer Research Fund.—Sir HENRY CAMPBELL-BANNERMAN replied that the question did not arise out of his answer.

Medical Officers of Dublin Unions.

Mr. CHARLES CRAIG asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that prior to the Local Government Act. 1893, the medical appointments in the North and South Dublin unions were held by an equal number of Protestants and Roman Catholics and that since the passing of that Act every vacancy occurring in the medical offices had been filled by a Roman Catholic, and whether the Government would take steps to secure fair treatment for Protestants.—Mr. BIRRELL replied: I am not aware whether the facts are as stated in the question. The Local Government Board has no information as to the religious belief of medical officers of unions whether appointed before or since the passing of the Local Government Act of 1898. In any event, the matter is not one in which the Government has power to interfere.

The Sanitary Condition of Piershill Barracks.

Mr. CHARLES PRICE asked the Secretary of State for War what were the dates upon which the first report was made as to the sanitary condition of Piershill barracks, and the report of the medical officer of health and the chief sanitary inspector for the city of Edinburgh; whether, subsequent to the latter report, another inquiry was made by the War Office; and, if so, whether such inquiry had been concluded, a report issued, and when.—Mr. HALDANE furnished the following written answer: The first report on the sanitary condition of Piershill barracks was made by the sanitary engineer of the War Office and the sanitary expert of the Army Medical Advisory Board in April, 1906. A second report was made by the Director-General, Army Medical Service, in May, 1906. A conjoint inspection was made by the sanitary engineer of the War Office and the sanitary expert of the Army Medical Advisory Board, on the one hand, and the medical officer of health of the borough of Edinburgh and the chief sanitary inspector, Dr. A. M. Williamson, on the other, in December, 1906, and a third report submitted by the two first-named officials. The report of the Director-General, Army Medical Service, and the report dated December, 1906, by the sanitary engineer of the War Office and the sanitary expert of the Army Medical Advisory Board, were laid before Parliament in 1906. There has been no subsequent inquiry later than that mentioned—viz., December, 1906.

An Accident at Perth Station.

Mr. JAMES O'CONNOR asked the Postmaster-General whether he was aware that an auxiliary postman met with an accident at Perth station on June 15th and that he was kept in the mail porters' office for over an hour before being taken to the hospital, owing to the fact that an ambulance could not be got and no one would take the responsibility of incurring an expense for cab fare, and whether he would issue instructions to see that such delay in cases of accident did not recur.—Mr. BUXTON replied (by written answer): I find that an auxiliary postman met with an accident to his foot at Perth station on June 15th and I am informed that he was assisted to the mail porters' room, where first aid was rendered by a member of the railway ambulance

corps. I regret to learn that some little delay occurred in getting the postman home. Instructions have been issued on the subject.

FRIDAY, JUNE 28TH.

Australian Health Legislation.

Mr. VINCENT KENNEDY asked the Under Secretary of State for the Colonies to say what method was used to prevent the landing of persons affected with pulmonary consumption in the Commonwealth of Australia; and whether he would supply fully the details of any legislation existing on this subject.—Mr. CHURCHILL replied: Under the Commonwealth Immigration Restriction Act, 1901, any person suffering from an infectious or contagious disease of a dangerous character is a prohibited immigrant and may be detained for the purpose of medical examination by any officer entrusted with the administration of the Act for a period not exceeding 24 hours in such place and in such custody as he thinks fit. The Secretary of State has no information as to the exact method in which the examination is conducted but will ask the Governor-General of the Commonwealth for a report if the honourable Member desires.

MONDAY, JULY 1ST.

Public Health in Lewis.

Mr. WEIR asked the Secretary for Scotland whether he was aware that, although the local authority in the Island of Lewis had for some years imposed the maximum assessment of 1s. per pound for public health purposes, it was quite unable, owing to lack of funds, to give effect to the recommendation of the report by Dr. F. Dittmar, medical inspector for the Local Government Board for Scotland; and would he state why the Board had taken no steps to see that the Public Health (Scotland) Acts were not ignored in this part of the United Kingdom.—Mr. SINCLAIR replied: I am aware, and I am convinced, that in these circumstances it is impossible at present to exercise further pressure upon the local authority.

The Report of a Medical Officer of Health.

Mr. MORTON asked the President of the Local Government Board whether, in view of the recommendations made by the medical officer of health for St. Asaph (Flint), he would ascertain from the local authorities whether they would consider the expediency of dealing with the sewage of the villages of Meliden and Dyserth.

Mr. WEIR also asked the President of the Local Government Board whether he was aware that the medical officer of health for the St. Asaph (Flint) district had expressed the opinion that the sanitation both of St. Asaph and Rhuddlan was unsatisfactory; and would he communicate with the local authority with a view to ascertain to what extent effect could be given to the recommendations of their medical officer of health.—Mr. JOHN BURNS (answering both questions) said: I have just received the report for last year of the medical officer of health and I find that he refers in it to the matters mentioned in the questions. I understand that the rural district committee regards the report as inaccurate and incomplete and has asked the medical officer further to consider it and submit it at the next meeting when the various matters dealt with will be fully considered.

The Bacteriologist to the Local Government Board.

Mr. MORTON asked the President of the Local Government Board, having regard to the fact that the bacteriologist employed by the Local Government Board at the National Vaccine Establishment received a salary of £600 per annum, would he explain why he was allowed to make a profit on vaccine lymph sold to the Local Government Board for Scotland.—Mr. JOHN BURNS replied: The bacteriologist referred to has not hitherto been required to devote his whole time to the duties of his office and he has received an extra payment in respect of his services in connexion with the supply of lymph by the English to the Scottish Local Government Board, such payment consisting of the sum received from the Scottish Board, less the cost of producing the lymph supplied to them. The arrangement has, however, now been altered. The bacteriologist is required to devote his whole time to his duties. He receives an inclusive salary and no extra allowance is payable to him in connexion with the lymph supplied to Scotland.

TUESDAY, JULY 2ND.

Tuberculosis in Ireland.

Mr. VINCENT KENNEDY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state how many persons had landed in Ireland from the United States and other countries within the last year to remain in the country and who were suffering from pulmonary consumption; would he say whether this serious disease was still on the increase in Ireland; and would he acquaint himself with the legislation at present in force in Australia and other British colonies which dealt with preventing the spread of this scourge, with a view to introducing similar legislation at once in Ireland and thus dealing effectively with this drain on Ireland's dwindling population.—Mr. BIRRELL furnished the following written answer: The Irish Government has no information as to the number of immigrants into Ireland who are affected with pulmonary consumption. The proportion of deaths from this disease in Ireland has been practically constant for a good many years past, and in this respect Ireland shows a regrettable difference from the rest of the United Kingdom, in which the death-rate from consumption has been steadily diminishing. The question of undertaking legislation for Ireland in regard to this important matter has already engaged the attention of the Government. I regret that I cannot hold out any hope of immediate legislation, but the matter will not be lost sight of.

Veterinary Surgeons and Public Health.

Mr. SLOAN asked the Secretary for Scotland what were the duties of veterinary surgeons under the Public Health Acts in diseases transmissible from animals to man by milk or meat; what use did the medical officer of health make of the advice given in matters purely veterinary; and whether the veterinary adviser reported through the medical officer of health or direct to the sanitary authority.—Mr. SINCLAIR replied: The duties of veterinary surgeons are contained in Sections 43 and 60 of the Public Health Act, 1897. The use that a medical officer of health will make of any information or advice obtained from the veterinary surgeon will depend on the nature and circumstances of the individual case. With regard to the last part of the question, when proceedings are taken under Section 60, the veterinary surgeon's report, if any, is, in terms of the statute, submitted to the local authority by the medical officer of health. In proceedings under Section 43 there is no statutory rule as to the reports and it is for each local authority to determine whether any report under that section shall be submitted direct or through the medical officer of health. But in all cases it is the duty of the medical officer of health to advise his local authority as to the measures necessary to prevent the direct or indirect transmission of the disease to human beings and, so far as authorised by statute or otherwise, to execute or superintend the execution of those measures.

KING EDWARD'S HOSPITAL FUND FOR LONDON BILL.

On the order for the consideration of this Bill as amended,

Dr. RUTHERFORD moved the recommittal of the Bill with an instruction to the Committee to insert clauses to provide that the control and management should be vested in the President and council, and that the council should be constituted on representative lines. He said that the proposed constitution of the Bill gave the President full and complete power unlimited, uncontrolled, and unchecked. All that he asked was that the council in so far as it was a representative council should be included in the Bill. The public requirements would be met if elected members had seats on it—one from the City of London, one from the London County Council, one from the University of London, one from the Royal College of Physicians of London, one from the Royal College of Surgeons of England, two from the British Medical Association, together with one representative each from the Hospital Sunday Fund, the Hospital Saturday Fund, and the Central Hospital Council. That the whole power should lie in the hands of the President was not fair to him or to the public. It placed him in a position of great responsibility, and no one could enjoy great responsibility without at the same time being open to severe criticism.

Mr. TREVELYAN pointed out that in creating a permanent constitution the House was dealing with an unknown future and personalities of whom they could have no knowledge. He saw no reason why there should not be some representation of public bodies, and he supported the suggestion that the Bill should be recommitted in order that it might be strengthened by a representative element.

Mr. JOWETT supported the amendment. He objected to the suggestion that there should be an overpowering representation of the medical profession controlling the hospitals. Between the years 1897 and 1903 £40,000 subscribed by the public for the conduct of hospitals in reality went to support medical schools. If public support was needed for medical schools let the support be directly applied for. Under the present system all kinds of subsidiary interests connected with the medical profession were sought to be served. The Fund was largely controlled by the medical profession without any real representation of the people. It had also been suggested that the medical profession utilised these hospitals unfairly for their training of future members of the profession and that surgical operations were conducted by men who would not be allowed to carry out such operations upon richer patients outside. All this pointed to the necessity for representative control over the Fund.

The ATTORNEY-GENERAL for ENGLAND (Sir JOHN LAWSON WALTON) said that it was the wish of the highest persons interested in the proposals of the Bill that the matter should be left to the consideration of Parliament, and any provision Parliament would think wise would be cordially accepted by those intrusted with the administration of the Fund. No one had cavilled at the powers of the present President during the time he had been graciously disposed to discharge the duties of the office, but it was contemplated that on the resignation of the Prince of Wales of the position of President there might be a question in reference to his successor and the qualifications his successor might possess for the discharge of duties and responsibilities which legislation might thrust upon him. The suggestion was put before the House of Lords Committee and a provision was introduced that on the termination of the tenure of office by the present President the office should pass to his successor to be chosen by the unanimous recommendation of the very prominent individuals who were named in the Bill. When the Prince of Wales resigned his place as President it would be necessary for the Lord Chancellor, the Prime Minister, and the Governor of the Bank of England for the time being to concur in the recommendation of some member of the Royal Family whom they considered qualified to accept the post now occupied by the Prince of Wales. Therefore there was assurance that three persons holding high and responsible public positions would unite in recommending a qualified person. But if they did not concur then the duties of President would devolve into the hands of three persons. There would be no longer a President but three Governors. It was said that the council ought to be elected, but the difficulty was to give the council an elective character, seeing that it was impossible to specify a constituency to carry out the election. It had further been suggested that this constituency should largely consist of the members of the medical profession; and, again, it had been suggested that subscribers to the Fund should be the electorate, and if that was adopted he believed that the majority and those who contributed the largest amounts had no wish to interfere with the discretion of the Royal Family. It was clear, however, that there would be a large representative element in the council.

Dr. RUTHERFORD: What we ask is that this should be inserted in the Bill.

The ATTORNEY-GENERAL replied that he was trying to satisfy honourable Members that that was not necessary. If public confidence was to be secured it was obvious that the constitution of the council must be maintained and possibly a larger representative element would be required in the future, but he suggested it was undesirable to stereotype this representation. In any scheme for hospital management there must be a large representation of the medical element. There had been proposed a clause limiting the individual power of the President, so that on his own part and on his own authority he could deal with neither the distribution, nor the investment, nor the application of the property, and that covered nearly the whole of the objects of the Fund. The President was thus controlled by the majority of his council in all matters relating to the investment, expenditure, application, and

distribution of money. His power of his own motion was limited to the mere collection of money. He (the Attorney-General) was strongly of opinion that it was of importance that the name of the Royal family should be connected with the appeal to the public for funds.

Mr. G. GREENWOOD welcomed the concessions that were being introduced into the Bill.

Sir WILLIAM COLLINS expressed satisfaction at the modifications giving the President and the General Council the direction, control, and management of the Fund, and at the changes that had been introduced in regard to the power of nomination of any future president and to the summary removal of members of the council. He saw great difficulty in the way of securing representation of the various London hospitals upon the body which would distribute this money annually.

Mr. MORTON urged that it was desirable to have a public audit of the accounts of the Fund.

Sir HENRY CAMPBELL-BANNERMAN said that honourable Members must not forget that this Fund was really created by the first President, the present King. The money could not have been obtained but for his influence, and therefore he and those associated with him were not in the least unreasonable in desiring to have at least something to say in the expenditure of money. He was glad to say that the Fund had been a conspicuous success. It had done a great deal of good in the improvements of matters and also in promoting economy. Its expenses had been at the rate of 1·35 per cent., which he thought was a model for hospitals throughout the country. Hitherto, the members of the council had been selected so as to include a large number of public interests. Many members of the House might not be aware that the following were members of the council: the Lords Lieutenant of London and Middlesex, the Bishops of London and Southwark, the Roman Catholic Archbishop of Westminster, the President of the National Council of Evangelical Free Churches, the Chief Rabbi, the Lord Mayor of London, the Chairman of the London County Council, the Governor of the Bank of England, the President of the Royal College of Physicians, and the President of the Royal College of Surgeons. These gentlemen had no doubt rendered good service and they were an ample proof of the desire of the President and his august predecessor to take advantage on the council of persons so well qualified to give advice as these were. There was no reason whatever to doubt that the same practice would continue in the future. It was urged that those names ought to be inserted in the Bill. If that were done it would be difficult to recognise any new body which might come into existence. A further step had been announced that day. The whole of the financial control of the Fund was left practically, as the Bill stood, in the hands of the President; but that was now put an end to and the council had an equal voice with the President in all that concerned the finance of the Fund. As to the suggestion for a public audit, the council was satisfied with the audit at present, but to satisfy the not unreasonable feeling which Mr. Morton had expressed an amendment would be moved to the following effect:—"The accounts of the Fund shall be annually audited by an auditor nominated by the President of the Local Government Board, the remuneration of such auditor to be fixed by the President of the Local Government Board and paid out of the Fund." He thought the concessions which had been made to meet very reasonable criticisms were of extreme importance and deserved to conciliate and attract the support of those who had regarded some of the provisions of the Bill with some suspicion. He hoped that the result of the discussion would be to add to the popularity and success of the Fund and to increase the confidence of the public in its management.

Mr. BALFOUR expressed the hope that the speech of the Prime Minister and the two amendments which had been announced might enable the House to give a unanimous vote. He would appeal to the House not to interfere with a Constitution which had proved so invaluable in obtaining the confidence of many subscribers in the past. He hoped the House might come to a unanimous decision and proceed to the consideration of the detailed measure on report, without going through the form of a division, which he was sure would be ungracious and inexpedient.

Dr. RUTHERFORD then withdrew his amendment and the Bill was considered. Amendments were introduced into the Bill to give effect to the concessions which members of the Government had adumbrated. This concluded the report stage and the Bill was ordered for third reading.

THE PUBLIC HEALTH BILL.

The Public Health Bill, which was introduced into the House of Commons by Mr. J. W. Wilson, came before one of the Standing Committees of the House on Monday, July 1st. Sir WILLIAM HOLLAND was in the chair. The object of this Bill is to enable urban authorities to adopt many of the clauses which having been introduced into private Bills of recent years, have been accepted by Parliament, and, further, to confer upon the Local Government Board the power to extend the measure to rural districts. The clauses selected for embodiment in the Bill relate to streets, buildings, and sewers, sanitary provisions, infectious diseases, milk-supply, common lodging-houses, recreation grounds, fire brigades, slaughter-houses, &c.

Mr. J. W. WILSON, in moving a formal amendment at the commencement of the proceedings, said that for 17 years the local authorities had been dependent upon private Bill legislation for any increase in their powers with regard to sanitary arrangements. He further thought that the House of Commons, having allowed this Bill to go through its second reading by consent, recognised its urgent need, not only in the interests of health and sanitation, but for the purpose of saving local authorities an enormous expense. He had received 105 letters from urban authorities heartily approving of this Bill. He recognised the friendly attitude of the President of the Local Government Board towards the Bill. He had acceded to the suggestions of the right honourable gentleman in the hope that he would promise public legislation of a more advanced and comprehensive form than that embraced in the Bill before the Committee.

Mr. BURNS said that the unanimity with which the House of Commons had received the Bill had induced the Government to give it its blessing. The Government considered that pending a consolidation of the whole of the Public Health Acts—the responsibility for which he hoped he would be able to bear in his present office—it was advisable even this year to pass a Bill of this kind. They had behind this Bill not only the support of the Members who were backing it, but also the unanimous consent of the House of Commons and the approval of the Chairman of Committees and other authorities of the House of Lords.

Most of the 142 clauses in the Bill were passed without comment, but on a few of them there was some debate. For example, there was some discussion on the clause dealing with children attending school, and a provision was agreed to to the effect that any parent or guardian who sent a child to a school if it had been suffering from an infectious disease, or had been exposed to infection, without receiving a permit from a medical officer should be liable to a fine not exceeding 40s. for each offence.

Clause 82 of the Bill sets forth that the medical officer might enter any public elementary school within the district of a local authority at all reasonable times and examine the scholars. He would further have the power to exclude from attendance any scholar who, in his opinion, was suffering from any infectious disease or was likely to spread infection.

Mr. COOPER raised objections to this power being given, as it might be exercised unreasonably. He was opposed to the child of the poor man being subjected to this inquisitorial action, while the child of the rich man would escape.

An HONOURABLE MEMBER: Will the medical officer be able to take action in the case of a child who has not been vaccinated?

Mr. J. W. WILSON: No. This refers only to infectious disease.

Several members of the Committee were afraid of giving this power to the medical officer even with the consent of the local authority. Eventually the following amendment was accepted in place of the clause:—

"The local authority may authorise a medical officer to enter any public elementary school within the district of the local authority at all reasonable times and to examine the scholars attending the same. He may exclude from attendance therein any scholar who in his opinion is suffering from an infectious disease."

Mr. BURNS moved to leave out the clauses dealing with the sale of milk, ice-cream, and the failure to notify diseased cows. He said that the Local Government Board had a Bill before the House dealing with ice-cream, milk, &c.

Mr. COOPER failed to see why the matter should not be dealt with in the Bill before the Committee, as the Bill of Mr. Burns might not succeed in passing through the House of Commons. The need of safeguarding the community from the dangers of ice-cream was not confined to the poor alone. He had ascertained that the dirtiest, filthiest, and most contaminated ice-cream had been sold in the West End of London.

On the promise of Mr. BURNS that the whole question would be dealt with in his Bill it was agreed to omit the clauses.

The Bill having passed through Committee was ordered to be reported to the House.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, 156, Charing Cross-road, London, W.C.

The Destruction of Daylight: A Study in the Smoke Problem. By John W. Graham, M.A., Principal of Dalton Hall, University of Manchester. Price 2*s.* 6*d.* net.

AMERICAN MEDICAL ASSOCIATION PRESS, 103, Dearborn-avenue, Chicago. (W. B. SAUNDERS COMPANY, London.)

American Medical Directory. Volume I. A Register of Legally Qualified Physicians of the United States and Canada. Price 35*s.* net.

APPLETON, SIDNEY, 25, Bedford-street, Covent Garden, London, W.C.

The Principles and Practice of Dermatology. Designed for Students and Practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois; Dermatologist to St. Luke's and Cook County Hospital, Chicago; Member of the American Dermatological Association. Price not stated.

Physical Diagnosis. With Case Examples of the Inductive Method. By Howard S. Anders, A.M., M.D., Professor of Physical Diagnosis, Medico-Chirurgical College, Philadelphia, Physician to the Philadelphia General Hospital, Tuberculosis Department. Price 12*s.* 6*d.* net.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Traité d'Hygiène. Publié en Fascicules sous la Direction de MM. A. Chantemesse et E. Mosny. XI. Hygiène Coloniale. Par les Docteurs Alliot, Clarac, Fontoynont, Kermorgant, Marchoux, F. Noc, Ed. et Et. Sergent, Simond et R. Wurtz. Price not stated.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

The Office of Midwife (in England and Wales) under the Midwives Act, 1902. (2 Edw. VII., Ch. 17). Concerning her Relation to the Central Midwives Board, to the Local Supervising Authority and its Inspectors, to the Medical Practitioner, to the Coroner, and to her Patients. By Stanley B. Atkinson, M.A., LL.M. Cant., M.B., B.Sc. Lond., of the Inner Temple, Barrister-at-Law, a Justice of the Peace for the County of London, Hon. Secretary of the Medico-Legal Society (London), Guardian and Borough Councillor. Price 3*s.* 6*d.* net.

BELL, GEORGE, AND SONS, York House, Portugal-street, Lincoln's Inn, London, W.C.

Our Slaughter-house System. A Plea for Reform. By C. Cash, B.A., Translator of "Humane Slaughtering," by Hugo Heiss, and The German Abattoir. By Hugo Heiss. Price not stated.

BRADBURY, AGNEW, AND CO., LIMITED, Printers, London and Tonbridge.

A Descriptive Catalogue of the Pathological Museum of the Hospital for Sick Children, Great Ormond-street. (To be obtained from the Secretary of the Hospital, Great Ormond-street, London, W.C.) Price 5s. net.

CASSELL AND COMPANY, LIMITED, London, Paris, New York, and Melbourne.

Gout: Its Pathology, Forms, Diagnosis, and Treatment. Originally founded on the Goulstonian Lectures on "The Chemistry and Pathology of Gout," delivered by the author before the Royal College of Physicians of London in 1897. By Arthur P. Luff, M.D., B Sc., F.R.C.P. Lond., Physician to St. Mary's Hospital. Third edition. Price 10s. 6d. net.

CHAPMAN AND HALL, LIMITED, London.

Population and Progress. By Montague Crackanthorpe, K.C. Price 2s. 6d. net.

CHURCHILL, J. AND A., 7, Great Marlborough-street, London, W.

The Labyrinth of Animals, including Mammals, Birds, Reptiles, and Amphibians. By Albert A. Gray, M.D. Glasg., F.R.S.E., Surgeon for Diseases of the Ear to the Victoria Infirmary, Glasgow. Vol. I. Price 21s. net.

Elements of Human Physiology. By Ernest H. Starling, M.D. Lond., F.R.C.P., F.R.S., Jodrell Professor of Physiology, University College, London. Eighth edition. Price 12s. 6d. net.

Practical Physiological Chemistry. A Book designed for Use in Courses in Practical Physiological Chemistry in Schools of Medicine and of Science. By Philip B. Hawk, M.S., Ph.D., Demonstrator of Physiological Chemistry in the Department of Medicine of the University of Pennsylvania. Price 16s. net.

Foods and their Adulteration. Origin, Manufacture, and Composition of Food Products; Description of Common Adulterations, Food Standards, and National Food Laws and Regulations. By Harvey W. Wiley, M.D., Ph.D. Price 21s. net.

COHEN, FRIEDRICH, Bonn.

Beiträge zur Entstehung der Geschwülste. Zweite Ergänzung zur "Geschwulstlehre für Aerzte und Studierende." Von Dr. Hugo Ribbert, ordentlicher Professor der allgemeinen Pathologie und pathologischen Anatomie, Direktor des pathologischen Institutes in Bonn. Die Entstehung des Karzinomes. Price M.4.80.

CURWEN, J., AND SONS, LIMITED, 24, Berners-street, London, W.

Voice Production in Singing and Speaking, based on Scientific Principles. By Wesley Mills, M.A., M.D., F.R.S.C., Professor of Physiology in McGill University, and Lecturer on Vocal Physiology and Hygiene in the McGill University Conservatorium of Music, Montreal, Canada. Price 7s. 6d. net.

DOIN, OCTAVE, 8, Place de l'Odéon, Paris.

Séméiologie des Maladies du Système Nerveux (Neurologie-Psychiatrie). Par le Dr. Henri Dufour, Médecin des Hôpitaux de Paris. Price Fr.5.

FISCHER, GUSTAV, Jena.

Die Melancholie. Ein Zustandsbild des manisch-depressiven Irreseins. Eine klinische Studie. Von Dr. Georges L. Dreyfus, vorm. Assistenzarzt an der Psychiatrischen Klinik der Universität Heidelberg. Mit einem Vorwort von Hofrat Professor Dr. Emil Kraepelin. Price M.7.

Chirurgische Operationslehre. Von Dr. Th. Kocher, Professor an der Universität und Direktor der Chirurgischen Klinik der Universität Bern. Fünfte vielfach umgearbeitete Auflage. Price M.20; geb., M.22.50.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

A Course of Lectures to Midwives and Maternity Nurses. By W. F. Fothergill, M.A., B.Sc., M.D., Lecturer in Obstetrics, Victoria University of Manchester, Hon. Assistant Gynæcologist, the St. Mary's Hospitals and the Northern Hospital, Manchester, Examiner to the Central Midwives Board. Price 4s. 6d. net.

HEINEMANN, WILLIAM, 21, Bedford-street, London, W.C.

The Nutrition of Man. By Russell H. Chittenden, Ph.D., LL.D., Sc.D., author of "Physiological Economy in Nutrition," &c., Professor of Physiological Chemistry and Director of the Sheffield Scientific School of Yale University. Price 14s. net.

HIRSCHWALD, AUGUST, Unter den Linden, 68, Berlin, N.W.

Bibliothek v. Coler. Herausgegeben von O. Schjerning. Band 22. Die Verwundungen durch die modernen Kriegsfeuerwaffen, ihre Prognose und Therapie im Felde. Von Stabsarzt Dr. Graf in Düsseldorf und Dr. Hildebrandt in Berlin. II. Band. Spezieller Teil. Price M.12.

JOHN BALE, SONS, AND DANIELSSON, Limited, 83-91, Great Titchfield-street, Oxford-street, London, W. (GRIFFITHS, FRANCIS, 34, Maiden-lane, Strand, London, W.C.).

The Construction and Reconstruction of the Human Body. A Manual of the Therapeutics of Exercise. By Eugen Sandow. With a Foreword by Sir Arthur Conan Doyle. Price 12s. 6d. net.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83-91, Great Titchfield-street, London, W.

Air, Light, and Sun Baths in the Treatment of Chronic Complaints. By Dr. A. Monteuuis. Translated from the French by Fred. Rothwell. Price 2s. net.

J. B. LIPPINCOTT COMPANY, Philadelphia and London.

A Text book of the Science and Art of Obstetrics. By Henry J. Garrigues, A.M., M.D., Professor of Obstetrics in the Post-Graduate School and Hospital (resigned), Professor of Obstetrics and Gynecology in the School for Clinical Medicine (resigned). Second edition, thoroughly revised. Price 25s. net.

KIMPTON, HENRY, 13, Furnival-street, Holborn, London, E.C.

The American Text-book of Prosthetic Dentistry. In Contributions by Eminent Authorities. Edited by Charles R. Turner, D.D.S., M.D., Professor of Mechanical Dentistry and Metallurgy, Department of Dentistry, University of Pennsylvania, Philadelphia. Third edition, revised and enlarged. Price 26s. net.

LEWIS, H. K., 136, Gower-street, London, W.C.

Manual of Operative Surgery. By John Fairbairn Binnie, A.M., C.M. Aberd., Professor of Surgery, Kansas State University, Kansas City. Third edition, revised and enlarged. Price 12s. 6d. net.

MACMILLAN AND CO., LIMITED, London.

A Health Reader. By C. E. Shelly, M.A., M.D., M.R.C.P., Consulting Medical Officer, Haileybury College, and E. Stenhouse-B.Sc., Associate of the Royal College of Science, London. Book II. Price 1s. 4d.

MITTLER, ERNST SIEGFRIED, UND SOHN, Kochstrasse 68-71, Berlin.

Medizinal-Berichte über die Deutschen Schutzgebiete, Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Südwestafrika, Neu-Guinea, Karolinen-, Marianen-, Marshall-Inseln und Samoa, für das Jahr 1904-05. Herausgegeben von der Kolonial-Abteilung des Auswärtigen Amts. Price M.7.50

PENTLAND, YOUNG J., Edinburgh and London.

Manual of Surgery. By Alexis Thomson, F.R.C.S. Ed., Assistant Surgeon, Edinburgh Royal Infirmary, Surgeon to the Deaconess Hospital, Edinburgh, and Alexander Miles, F.R.C.S. Ed., Assistant Surgeon, Edinburgh Royal Infirmary, Surgeon to Leith Hospital. Volume second. Regional Surgery. Second edition, revised and enlarged. Price not stated.

REBMAN, LIMITED, 129, Shaftesbury-avenue, London, W.C.

The Treatment of Disease. A Manual of Practical Medicine. By Reynolds Webb Wilcox, M.A., M.D., LL.D., Professor of Medicine at the New York Post-Graduate Medical School and Hospital, Consulting Physician to the Nassau Hospital. Price 24s. net.

Surgical Diseases of the Chest. By Carl Beck, M.D., Professor of Surgery in the New York Post-Graduate Medical School and Hospital. Price 20s. net.

Hygiene of the Lung in Health and Disease. By Professor Dr. Leopold von Schrötter, Director of the Third Medical Clinic of the Vienna University. Translated by H. W. Armit, M.R.C.S., L.R.C.P. Price 2s. net.

SPRINGER, JULIUS, Monbijouplatz, 3, Berlin, N.

Die chronische progressive Schwerhörigkeit. Ihre Erkenntnis und Behandlung. Von Dr. August Lucae, Geh. Med.-Rat und Professor an der Königl. Friedrich Wilhelms-Universität zu Berlin. Price M.18.

SWAN SONNENSCHEIN AND CO., LIMITED, 25, High-street, Bloomsbury, London, W.C.

Labour and Childhood. By Margaret McMillan, Author of "Early Childhood" and "Education through the Imagination," &c. Price 3s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week such information for gratuitous publication.*

BEST, W. J., M.R.C.S., L.S.A., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Louth District of the county of Lincoln.

CHILES-EVANS, DAVID BRYNMOR, L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer at the Swansea Workhouse.

COLYER, STANLEY, M.B., B.S. Lond., D.P H., has been appointed House Physician at the General Lying-in Hospital, York-road, Lambeth.

COOMBS, CAREY, M.D. Lond., has been appointed Assistant Physician to the Bristol General Hospital.

CROSBIE, R. P., M.B., B.S. R.U.I., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Cork District of the county of Cork.

DAVID, JOHN, M.B., C.M. Glasg., has been appointed a District Medical Officer by the Neath (Glamorganshire) Board of Guardians.

EWING, J. MILLAR G., L.R.C.P. & S. Edin., has been appointed House Surgeon to the Wallasey Dispensary and Victoria Central Hospital, Liscard.

GUNNING, CHARLES JOHN HOPE, M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to the Victoria Hospital for Children, Tite-street, Chelsea, S.W.

LOGAN, FREDERICK THOMAS BISHOP, L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer for the Bishopsworth District of the Long Ashton (Somerset) Union.

MACPHAIL, ALEXANDER, M.B., M.S. Glasg., has been appointed Lecturer on Anatomy at the Charing Cross Hospital Medical School.

ROBBS, C. H. D., M.B. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Grantham District of the county of Lincoln.

RYNNE, M. A., M.D. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Cheltenham District of the county of Gloucester.

ST. JOHNSTON, THOMAS REGINALD, M.R.C.S., L.R.C.P. Lond., M.S.A., has been appointed Government Medical Officer in Fiji.

SYMES J. ODERY, M.D. Lond., has been appointed Physician to the Bristol General Hospital.

WILLIAMSON, HERBERT, M.B., M.R.C.P. Lond., has been appointed Assistant Physician-Accoucheur to St. Bartholomew's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERGAVENNY. MONMOUTHSHIRE ASYLUM.—Senior Assistant Medical Officer. Salary £250 per annum, with board, apartments, washing, and attendance.

AYR COUNTY HOSPITAL.—Resident House Surgeon. Salary £70 per annum, with board and residence.

AYR DISTRICT ASYLUM.—Junior Assistant Physician, unmarried. Salary £120 with board, apartments, and laundry.

BIRMINGHAM WORKHOUSE INFIRMARY.—Assistant Resident Medical Officer. Salary £104 per annum, with apartments, rations, and attendance.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with apartments, board, and attendance.

BRISTOL ROYAL INFIRMARY.—Casualty House Surgeon for six weeks.

BURNLEY, VICTORIA HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with residence, board, and washing.

BURY ST. EDMUNDS, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

CANCER HOSPITAL, Fulham-road, S.W.—Medical Officer in Charge of the Electrical Department. Salary £26 5s. per annum.

CHELSEA INFIRMARY, Cale-street, S.W.—Second Assistant Medical Officer. Salary £90, rising to £100, with board, apartments, coals, gas, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Junior House Surgeon for six months, subject to re-appointment. Salary £60 per annum, with rooms, board, washing, and attendance.

DERBY, DERBYSHIRE ROYAL INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

EGYPT.—Sub-Inspector of Ophthalmic Hospitals, unmarried. Salary £500 a year.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeoncy for six months. Salary at rate of £30 per annum, with board, residence, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100, with board, residence, and laundry.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—Physician.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, Maida Vale, W.—Physician for the Diseases of Women.

HULL, ROYAL INFIRMARY.—Casualty House Surgeon. Salary £50, with board and lodging.

LIVERPOOL INFIRMARY FOR CHILDREN.—House Surgeon. Salary £100 per annum, with board and lodging.

LIVERPOOL STANLEY HOSPITAL.—Assistant Honorary Ophthalmic Surgeon.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon, non-resident, for six months. Salary at rate of £75 per annum.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 a year, with rooms, attendance, board, and washing.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and washing.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar. Salary £80 per annum.

MIDDLESEX HOSPITAL, W.—Medical Officer and Registrar to the Cancer Department. Salary £100 per annum, with board and residence.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Junior Resident Medical Officer. Salary £80 per annum, with board, residence, and laundry.

NORTHAMPTON GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £90 a year, increasing to £100, with apartments, board, washing, and attendance.

NORWICH, NORFOLK AND NORWICH HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with apartments, board, and laundry.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £80 per annum, with board, residence, and washing.

OXFORD, RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—Honorary Assistant Surgeon.

POPLAR HOSPITAL FOR ACCIDENTS.—Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board and residence.

ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon, Salary £110 per annum, with rooms, commons, and washing. Also Assistant House Surgeon. Salary £80 per annum, with rooms, commons, and washing.

ROYAL EYE HOSPITAL, St. George's-circus, S.E.—Refraction Assistant. Salary £40 per annum. Also Clinical Assistants.

ROYAL INSTITUTE OF PUBLIC HEALTH.—Demonstrator of Comparative Pathology and Bacteriology.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

ST. LUKE'S HOSPITAL, Old-street, London.—Clinical Assistant, unmarried, for six months, board, apartments, and washing provided.

SEAMEN'S HOSPITAL SOCIETY.—Assistant Physician. Also assistant Surgeon.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with board, washing, and residence.

STOCKTON-ON-TEES, STOCKTON AND THORNABY HOSPITAL.—House Surgeon. Salary £180 per annum, with residence, board, and washing.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Senior House Surgeon, unmarried. Salary £110 per annum, with, board residence, and laundry. Also Assistant House Surgeon, unmarried. Salary £75 per annum, with board, residence, and laundry.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—Honorary Physician-in-Ordinary.

Births, Marriages, and Deaths.

BIRTHS.

BROWN.—On June 30th, at Carlton House, Gloucester, the wife of Walter Brown, M.B., of a daughter.

DICKIE.—On June 29th, at Ryedale-terrace, Middlesbrough, the wife of W. S. Dickie, F.R.C.S., of a daughter.

EDGE.—On the 1st inst., at Granville House, Tettenhall-road, Wolverhampton, the wife of Frederick Edge, M.D., F.R.C.S., M.R.C.P., of a son.

HOWDEN.—On June 30th, at Cambridge-terrace, Dover, the wife of Ian Howden, M.D., J.P., of a son.

MARRIAGES.

BIRT—KIDD.—On June 29th, at St. Michael's, Blackheath, S.E., A. Cyril Birt, M.R.C.S., L.R.C.P., D.P.H., to Gertrude Isabelle Kidd, daughter of Joseph Kidd, M.D.

DICKINS—TAUNTON.—On June 26th, at St. Nicholas, Worcester, Sidney John Oldacres Dickins, M.D., to Cicely Margaret, elder daughter of William Whitchurch Taunton, B.Sc., M.R.C.P.

MACWATTERS—RICHARDS.—On May 1st, at St. John's Church, Peshawar, by the Rev. H. W. F. Fagan, chaplain, R. C. MacWatters, M.B., I.M.S., to Nona, youngest daughter of the late Dr. Geo. Richards of Ross-on-Wye.

TRIST—OWEN.—On June 26th, at St. Luke's Parish Church, Chelsea, by the Venerable the Archdeacon of Middlesex, assisted by the Rev. W. B. Trevelyan, vicar of St. Matthew's, Westminster, and the Rev. Owen Slacke, curate-in-charge Coles Hill, Bucks (cousin of the bride), John Ronald Rigden Trist, M.R.C.S., L.R.C.P., Crest House, Putney, elder son of Herbert H. Trist of 22, Vernon-terrace, Brighton, to Louisa Harriet, eldest daughter of E. Annesley Owen, Esq., Barrister-at-Law, of 94, Oakley-street, Chelsea, and of the Inner Temple.

DEATHS.

BENSON.—On June 22nd, 1907, at Chatham, New Brunswick, Canada, John Stafford Benson, M.R.C.S.E., aged 69 years, son of the late Stafford Benson, M.R.C.S.E., formerly of Appledore, Devonshire, England.

FLEURY.—On June 28th, at Lower Baggot-street, Dublin, Charles Robert Fleury, M.D., in his 72nd year.

GAIRDNER.—At Bracondale, Colinton, Midlothian, on Friday, June 28th, very suddenly, Sir William Tennant Gairdner, K.C.B., LL.D., M.D., aged 82.

THORP.—On July 2nd, at Elgin-crescent, Bayswater, Sidney Thorp, M.R.C.S., aged 63.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

CHARGE AGAINST A MEDICAL MAN FOR OBSTRUCTING THE HIGHWAY WITH HIS MOTOR-CAR.

A VERY curious charge was recently brought against Dr. R. H. Spencer, a practitioner of Alcester, by the Inkberrow police for obstructing the Worcester-road in that place. The car had stood outside a house in which Dr. Spencer was paying a professional visit and a police-constable stated that whilst it was standing there he had seen two horses shy at it and refuse to pass it. On cross-examination by Dr. Spencer's solicitor he admitted that the road was 19½ feet wide and that the car was only 4 feet 9 inches across at its widest part. The car was silent. The witness had made no attempt to draw its owner's attention to the matter until he came out of the house. He considered that the road was obstructed by the car and that the people of Inkberrow were entitled to the whole of the road just as much as Dr. Spencer, which, seeing that his car was not occupying a quarter of it, appears a singular argument. The defence was that there had been no wilful obstruction and that there was no case to answer, and the bench concurred in this view and dismissed the case. The police superintendent intimated that he should ask the bench to state a case. We congratulate Dr. Spencer on the result, but it is annoying to be put to the trouble and expense of answering such an unlooked-for charge. We record the case as one of some importance to medical men, for had it succeeded it would have afforded a precedent that would have brought all medical men who perform their rounds in motor-cars within daily peril of the law. We do not, of course, know whether the matter may be taken to a higher court.

SPEED VERSUS COMFORT ON RAILWAYS.

To the Editors of THE LANCET.

SIRS,—It is difficult to see the precise object of Mr. Edge's recent wonderful feat of endurance, and I would undertake to make a motor-car travel a greater distance in 24 hours by mounting it so that it could travel on a circular railway track and elliminating the driver altogether. But seriously, is not this craze for excessive speed rather overdone? What the ordinary traveller wants is not to be banged along at 60 miles an hour but to go at a good moderate speed *under comfortable conditions*. This is a requirement not much studied by our railway companies, who even for quite long journeys provide nothing better than suburban carriages in defiance of all reasonable requirements of our physical economy. Every long-distance train ought by law to consist of corridor coaches only, fitted with lavatory accommodation; and the provision of a buffet where light refreshments could be obtained would be a welcome, though not so necessary, addition. I wish that some distinguished medical man could be induced to take this question up in the interests of the travelling public, who are quite at the mercy of the railway companies in this matter.

I am, Sirs, yours faithfully,

July 1st, 1907. AN OCCASIONAL TRAVELLER.

G. S. A.—Fibrolysin is described as a modification of thio-sinamin, and we believe that capsules of it can be obtained through the medium of any first-class manufacturing chemists.

Soberness.—We do not think that any purpose will be served by continuing the correspondence. Both sides have sufficiently explained their position.

Charles Brown.—Red.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 4th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
June 28	29·97	W.	0·04	117	67	53	54	56	Cloudy
,, 29	29 95	E.	...	93	65	51	53	56	Fine
,, 30	29 88	N.E.	0·36	87	59	48	49	52	Cloudy
July 1	29·89	N.E.	...	109	61	49	50	54	Cloudy
,, 2	29·98	N.E.	...	106	63	51	51	54	Cloudy
,, 3	29·83	S.W.	...	94	59	49	51	57	Fine
,, 4	29·63	S.W.	0·17	119	62	52	54	55	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (9th).—ROYAL SOCIETY OF MEDICINE (LARYNGOLOGICAL SECTION) (20, Hanover-square, W.).—5 P.M.: Election of Chairman, President, and Officers and Council.

SOCIETY FOR THE STUDY OF INEBRIETY (11, Chandos-street, Cavendish-square, W.).—3.30 P.M.: Council Meeting. 4 P.M.: Discussion on Alcohol and the Children of the Nation (opened by Mrs. Scharlieb, M.D., M.S.).

WEDNESDAY (10th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M.: Meeting.

THURSDAY (11th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Exhibition of Specimens.

SATURDAY (13th).—INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH (Town Hall, Colchester).—11.15 A.M.: Paper:—Dr. W. G. Savage (President of the Eastern Counties Branch): Recent Work upon the Bacteriology of Typhoid Fever in its Relationship to Preventive Measures.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (8th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Pathological Demonstration:—Dr. Low. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Mr. Armour.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Fox: Clinique. (Skin.) 5.15 P.M.: Lecture:—Dr. J. Morrison: Lingering Labour, its Causes and Treatment.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—9.30 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. Whipham); Throat, Nose, and Ear (Mr. Carson); X Ray (Dr. Pirie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. St Clair Thomson: Diseases of the Throat, Nose, and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (9th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Dunn.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. W. Carr: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. G. F. Still: Infantile Diarrhœa.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10.30 A.M.: Medical Out-patient (Dr. Auld). 2.30 P.M.: Gynæcological Out-patient (Dr. Giles). Surgical Out-patient (Mr. Edmunds). Surgical Operations (Mr. Carson).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Dr. A. Wylie: Pharynx.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. J. Collier: Amyotonic Congenita.

WEDNESDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. H. L. Barnard: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. W. Langdon Brown: Sudden Death.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Skin (Dr. Meachen), Eye (Mr. Brooks), Medical Out-patient (Dr. Whipham).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

THURSDAY (11th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson). 3 P.M.: Medical In-patient (Dr. Chappel).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Dr. Thursfield: The Diagnosis, Prognosis, and Treatment of Pleural Effusions in Children.

ST. MARY'S HOSPITAL MEDICAL SCHOOL (Paddington, W.).—3.30 P.M.: Presentation of Prizes and Awards by Prof. Osler.

FRIDAY (12th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. X Rays. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Lecture:—Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. W. Dodd: Clinique. (Eye.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—9.30 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Mr. Ballance: Surgery of the Nervous System.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Dr. A. Wylie: Pharynx.

SATURDAY (13th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1907, which was completed with the issue of June 29th, are given in this number of THE LANCET.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1907 will be ready shortly. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

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TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

During the week marked copies of the following newspapers have been received:—*Redditch Indicator, Alcester Chronicle, Hertfordshire Mercury, Westminster Gazette, Westminster and Pimlico News, Tottenham and Edmonton Weekly Herald, West Sussex Gazette, Daily Dispatch (Manchester), Montreal Gazette (Canada), Dublin Daily Express, Huddersfield Weekly Examiner, Canterbury Times, Dublin Evening Telegraph, Dundee Advertiser, Science Siftings, Liverpool Daily Post and Mercury, Oxford Review, Daily News, Bath Herald, Yorkshire Observer, Statesman of India, Wimbledon Gazette, Broad Arrow,* &c.

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